Also inside: Geeks Love Problems, So Give Them Some 56
Data Centers Thrive in Tornado Country 8

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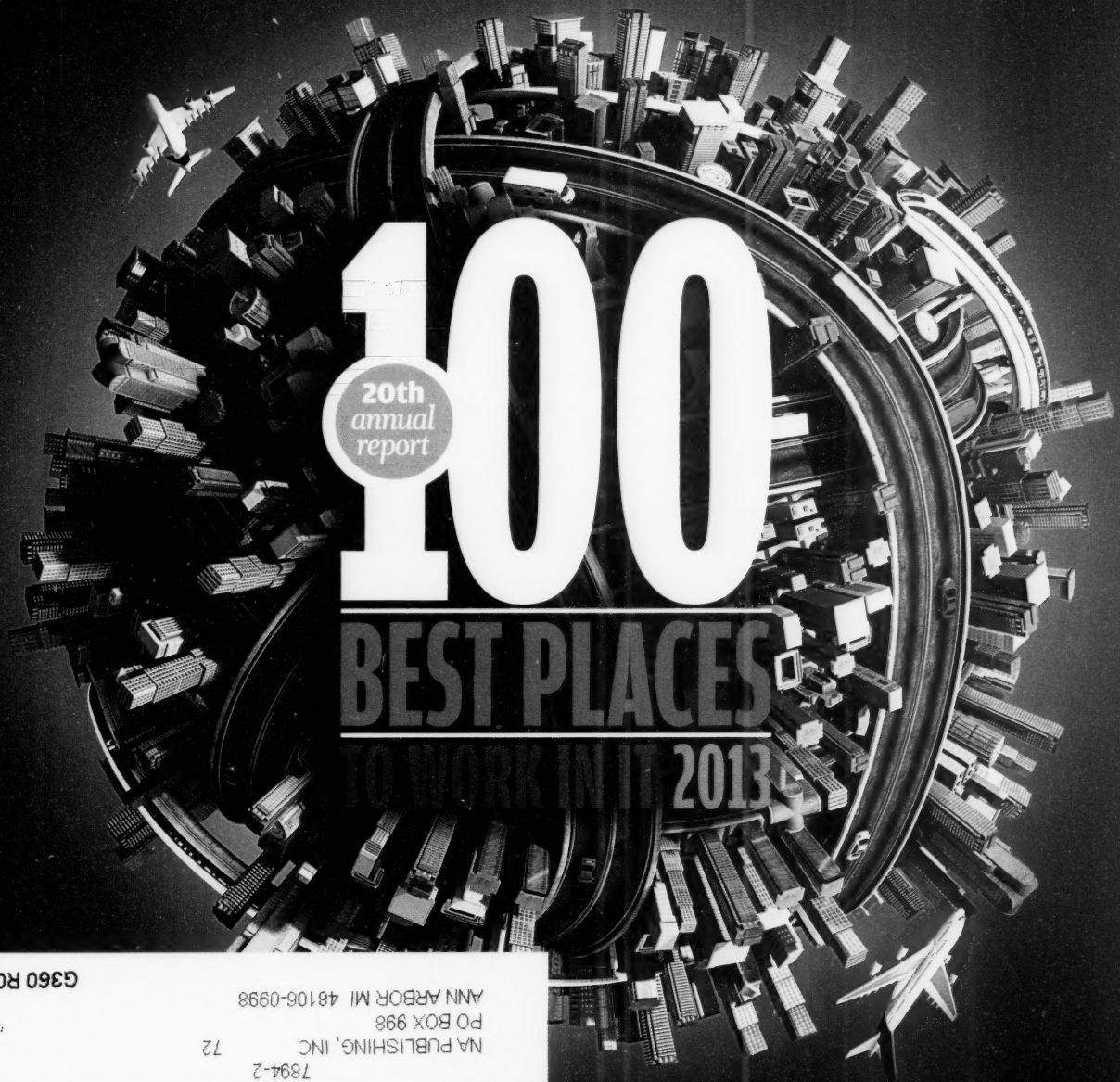

20th annual report

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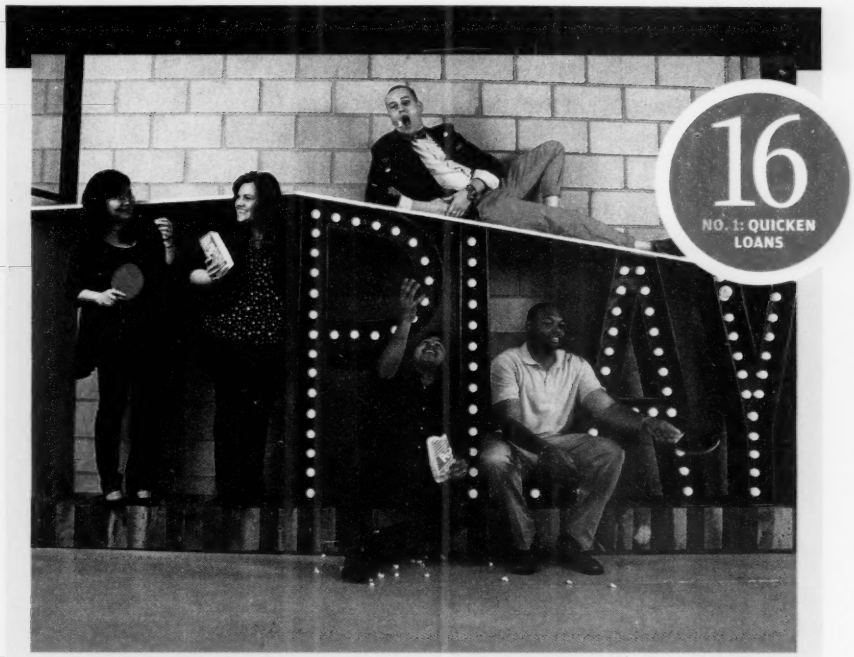

100 BEST PLACES TO WORK IN IT 2013

20th annual report

The IT Staffs You'll Envy

15 Worker satisfaction and development are top priorities for these outstanding employers. Find out more in our 20th annual report.

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HEADS UP | **2** Vinton Cerf worries that we're **losing our data.** | IT luminaries weigh in on the **Oracle-Google** Java API lawsuit. | **4 IT is evolving** as tech changes. | Hackers embrace **P2P systems.**

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6 China has once again built the **world's fastest supercomputer.** | **8** Are your systems hosted in **Oklahoma?** Don't worry: Data centers there can **withstand tornadoes.**

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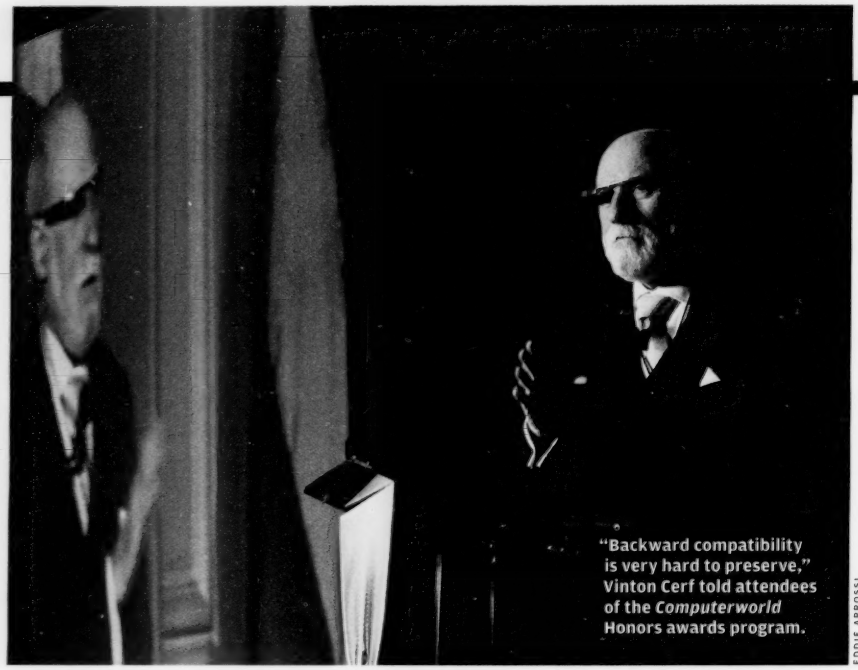
RAY RUSHING / QUICKEN LOANS

Fresh Insights
New Trends
Great Ideas

Heads Up



"Backward compatibility is very hard to preserve," Vinton Cerf told attendees of the *Computerworld* Honors awards program.

EDDIE ARROSSI

METADATA

Today's Data Could Be Gone Tomorrow

INTERNET PIONEER Vinton Cerf is concerned that we're at risk of losing much of the data we've been creating in the digital age he helped usher in.

Speaking at the *Computerworld* Honors awards program earlier this month, the co-designer of the Internet's TCP/IP protocol said he's concerned that digital items we use today — spreadsheets, documents and scientific data — will one day be lost, perhaps one day soon.

To support his point, Cerf noted that the Microsoft Office 2011 software on his Macintosh computer can't read a 1997 PowerPoint file. "It doesn't know what it is," he said.

"I'm not blaming Microsoft," said Cerf, who is Google's vice president and chief Internet evangelist. "What I'm saying is that backward compatibility is very hard to preserve over very long periods of time."

Preserving files on disks isn't the answer, because digital content is meaningful only if software can interpret it. "We may lose the ability to understand the disk," he said.

It's not just PowerPoint slides, he said. The vast amounts of data that scientists collect from simulations and instrument readings may also be lost. The key is to preserve the metadata, which tells the conditions under which the data was collected, how the instruments were calibrated and the correct interpretation of units.

What's needed, Cerf said, is a "digital vellum," a means as durable and long-lasting as the material that has preserved written content for more than 1,000 years.

Fortunately, he said, the world is aware of the problem and efforts are underway to solve it.

– *Patrick Thibodeau*

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JAVA

Experts Oppose Oracle in Java API Copyright Suit

More than 30 computer scientists signed off on a court brief opposing Oracle's effort to copyright its Java APIs, a move they say would hold back the computer industry and make technology more expensive.

The amicus brief was filed by the Electronic Frontier Foundation in support of Google in its copyright lawsuit with Oracle. A total of 32 tech luminaries signed the document, including MS-DOS author Tim Paterson and Arpanet developer Larry Roberts.

Oracle filed suit against Google in 2010, claiming that Google infringed on Oracle's copyright for Java APIs when it developed the Android operating system. Google denies any wrongdoing, arguing in part that application programming interfaces aren't eligible for copyright protection.

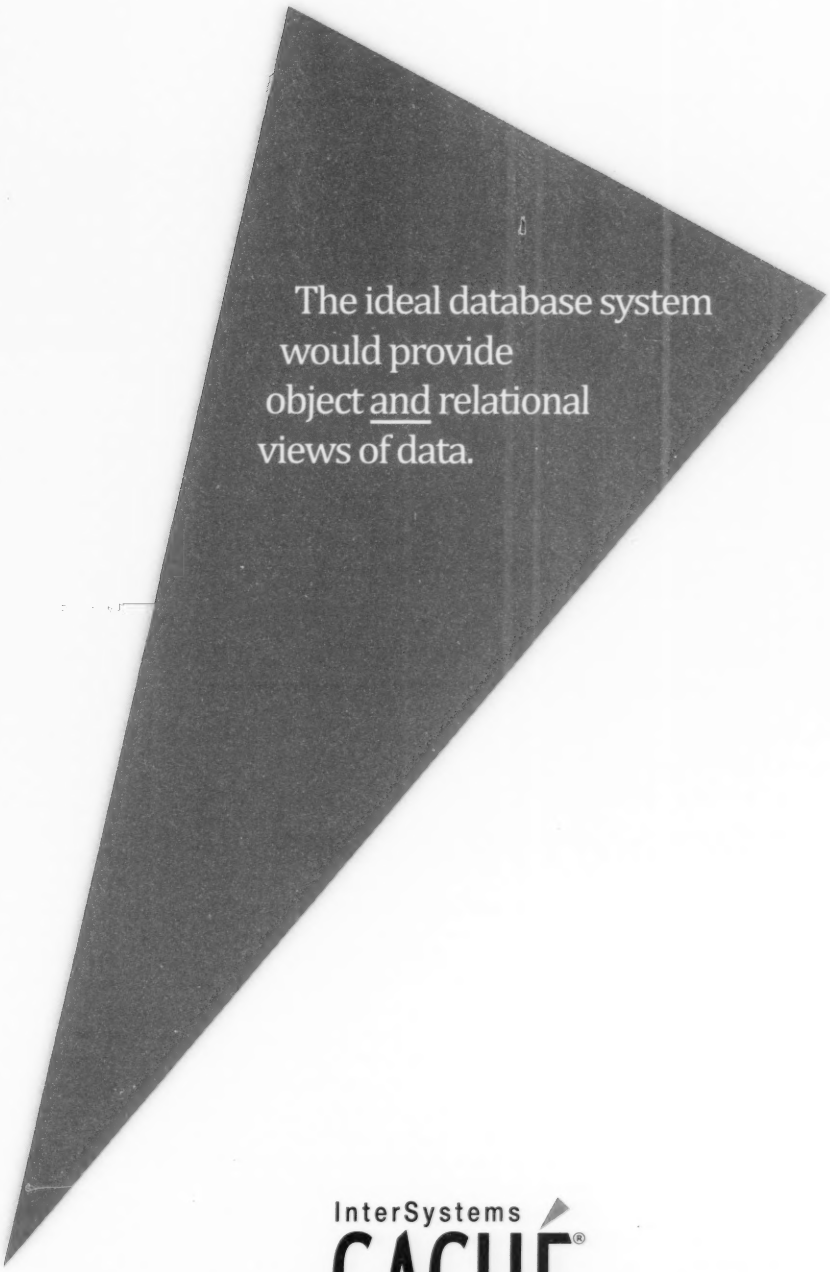
Last year, a California district court largely agreed with Google and ruled against Oracle in the case.

Oracle appealed, and the EFF filed its brief in an effort to encourage the court to side with Google.

"The freedom to reimplement and extend existing APIs has been the key to competition and progress in the computer field," the brief states.

Oracle has argued that the complex structure and syntax of the Java APIs make them a creative work worthy of protection.

– JAMES NICCOLAI, IDG NEWS SERVICE



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BETWEEN THE LINES
By John Klossner

DATA CENTER

IT Morphs as Tech and Users Change

AS THE CONSUMERIZATION of IT and self-service trends gain momentum, IT shops are being restructured and IT professionals are learning to play new roles.

"The business itself will be the IT department. [The techie] will simply be the enabler," said Brandon Porco, chief technologist and solutions architect at Northrop Grumman.

Porco was part of a four-person panel of IT professionals who answered audience questions during a town hall meeting at this month's CITE Conference and Expo in San Francisco.

A common concern was how to address a growing generation gap in the user community, where younger people and veteran employees are comfortable with different technologies.

"Interns coming in for the summer are asked if they're familiar with Google Apps. They say, 'Of course we are,'" said Nathan McBride, vice president of IT and chief cloud architect at AMAG Pharmaceuticals. "Then we have other employees coming in [from] other companies who say, 'I need Outlook.' We have to say we don't use that anymore."

McBride said 75 of the Fortune 100 and most Ivy League schools now use Google Apps, meaning that the next generation of workers won't be users of Microsoft Exchange or Office.

Kathleen Schaub, an analyst at research firm IDC, said it's now common for a corporate IT shop to fall under the auspices of a specific business unit. "The premise is that wherever IT sits in an organization will dictate what they care about," she said. "If they're in finance, they'll care about cost-cutting. If they're in operations, they'll care about process management. If [the company] decides it wants to focus on the customer, they'll put it in marketing."

The CIO position will likely remain, said Porco, but that role will morph into one of a technology forecaster and strategist, rather than a technology implementer.

– Lucas Mearian

Micro Burst

Despite losing confidence in the economy,

46%

of IT workers are likely to look for new jobs this year.

CYBERCRIME

More Malware Travels Via P2P Nets These Days

Hackers have found a devious new way to disseminate malware: They're using peer-to-peer networks.

Security firm Damballa reports that the number of malware samples that use P2P communications has increased fivefold during the past 12 months.

Advanced threats like ZeroAccess, Zeus Version 3 and TDL-4 are playing the biggest roles in this development, said Stephen Newman, vice president of products at Damballa. Meanwhile, other malware families have adopted P2P as a command-and-control channel, he said.

Botnet masters stand to lose access to thousands or millions of infected computers if their control servers get shut down, so they're looking to gain resiliency by making use of decentralized P2P networks, where botnet clients can relay commands to one another, he said.

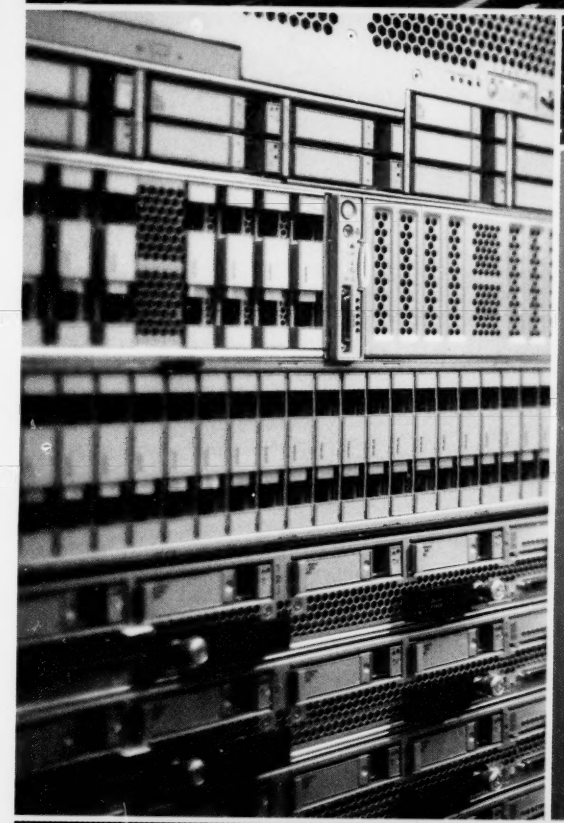
Malicious P2P traffic is hard to detect and block using traditional approaches that rely on lists of known IP addresses and hosts associated with command-and-control servers.

In an a recent report on the resilience of P2P botnets, a group of researchers from universities and tech vendors concluded that there's an urgent need to find new ways to thwart malicious traffic on P2P botnets.

– LUCIAN CONSTANTIN

Business Operations Per Second: Unparalleled Cisco Server Performance[1]

1,584,567



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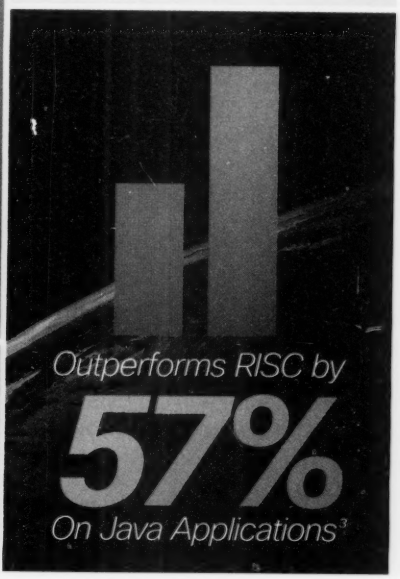

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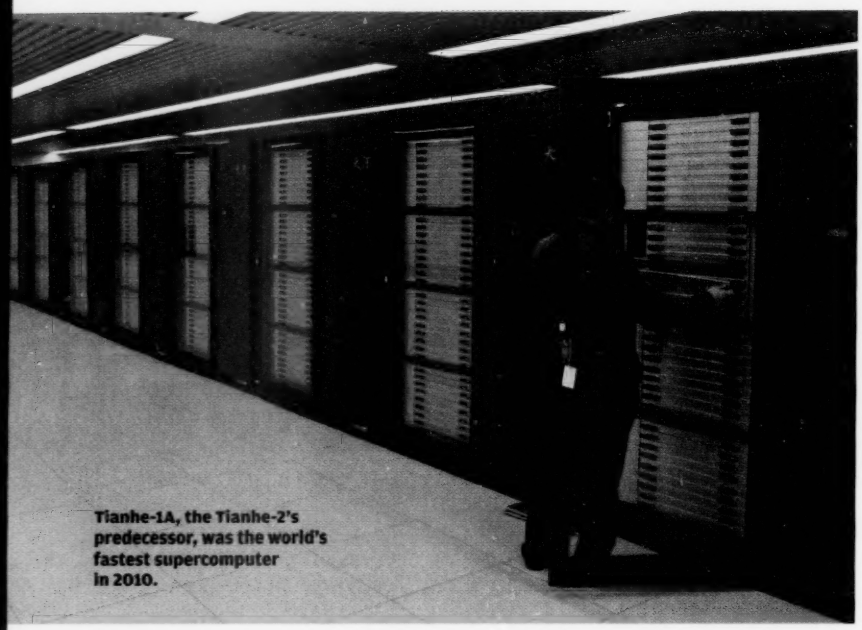
1. Based on SPECjbb2005 benchmark on Cisco UCS C220 M3 server at 1,584,567 BOPS, 792,284 BOPS/JVM. 2. Based on TPC Benchmark C Results on 2 Processor Systems. Cisco UCS C240 M3 High-Density Rack Server with Oracle Database 11g Release 2 Standard Edition One, 1,609,186.39 tpmC, $0.47/tpmC, available 9/27/12 compared to IBM Power 780 Server Model 9179-MHB with IBM DB2 9.5, 1,200,011.00 tpmC, $0.69/tpmC, available 10/13/10. 3. Based on SPECjEnterprise2010 benchmark with 8 total Java EE Server processors on Cisco UCS B440 M2 servers at 26,118.67 EjOPS compared to RISC-based IBM Power 780 at 16,646.34 EjOPS. SPEC®, SPECjbb®, and SPECjEnterprise® are registered trademarks of Standard Performance Evaluation Corporation. TPC Benchmark C® is a trademark of the Transaction Performance Processing Council (TPC). The performance results described here are derived from detailed benchmark results available at http://www.spec.org and http://www.tpc.org as of 1-15-2013. ©2013 Cisco and/or its affiliates. All rights reserved. All third-party products belong to the companies that own them. Cisco, the Cisco logo, and Cisco UCS are trademarks or registered trademarks of Cisco. Intel, the Intel logo, Xeon and Xeon Inside are trademarks or registered trademarks of Intel Corporation in the U.S. and/or other countries. All other trademarks are the property of their respective owners.



Tianhe-1A, the Tianhe-2's predecessor, was the world's fastest supercomputer in 2010.

China Is No. 1 in Supercomputing

With 3.1 million cores and the ability to run at speeds of 55 petaflops, the Tianhe-2 is expected to take first place on the Top500 list this week. By Patrick Thibodeau

CHINA HAS PRODUCED a supercomputer capable of running at 54.9 petaflops that will likely be recognized as the world's fastest system in the forthcoming Top500 list of the world's most powerful computers.

The new system — called Tianhe-2, or Milkyway-2 — has 3.1 million cores, 32,000 multicore Intel Xeon Ivy Bridge chips, and 48,000 Xeon Phi co-processors, along with technologies produced in China.

The 24-megawatt system, which cost about $290 million, runs more than twice as fast as any supercomputer in the U.S.

The current Top500 leader is an 18-petaflop Cray supercomputer at the U.S. Department of Energy's Oak Ridge National Laboratory. The Top500 list is updated twice a year, with the newest version set to be released at this week's International Supercomputing Conference in Leipzig, Germany, where the Chinese system is expected to be unveiled.

Jack Dongarra, a professor of computer science at the University of Tennessee and an academic overseer of the Top500 supercomputing list, posted a detailed description of the new Chinese system early this month. The description is based on information he obtained in a briefing he had with a Chinese official from the National University of Defense Technology at a high-performance computing conference in Changsha.

Dongarra's report suggests that China may have the top system for a couple of years. "The next large acquisition of a supercomputer for the U.S. Department of Energy will not be until 2015," he wrote.

The Tianhe-2 "is a clear statement of how serious [China is] with respect to scientific computing," said Peter Beckman, a top computer scientist at the DOE's Argonne National Laboratory and head of the U.S. exascale computing initiative. "If you look at their history of investment, this is just one data point in a much longer series of investments."

The new system is the successor to the Tianhe-1A, which had been recognized as the world's fastest supercomputer in November 2010. President Barack Obama made note of that accomplishment in his 2011 State of the Union speech and then argued that the U.S. faces another "Sputnik moment" because it is at risk of being surpassed by China and other countries in the realm of technological research.

China has been developing its own chip technology and has been mixing and matching homegrown tech with imported components. U.S. researchers believe China is heading in the direction of building a supercomputer made entirely of domestically produced components, including chips.

"There are number of features of the Tianhe-2 that are Chinese in origin, unique and interesting," Dongarra said in his report. He cited proprietary interconnects and the Galaxy FT-15, a 16-core processor.

"I suspect that there is a national pride issue," Beckman said. "They will really work, in my opinion, to make a top machine that will be [homegrown] tech from top to bottom."

With its strong tech push, China is raising the stakes for the U.S. — and for Japan and Europe. It's showing a willingness to vie for leadership in the race to develop exascale systems, which would be capable of running at 1,000 petaflops or more. A petaflop is 1,000 teraflops, or 1 quadrillion floating-point operations per second.

China wants to produce an exascale system before 2020. The U.S. at its current pace won't hit that milestone until around 2025, researchers told U.S. lawmakers last month. ◆

> [The Tianhe-2] is a clear statement of how serious [China is] with respect to **scientific computing.**
>
> COMPUTER SCIENTIST, ARGONNE NATIONAL LAB

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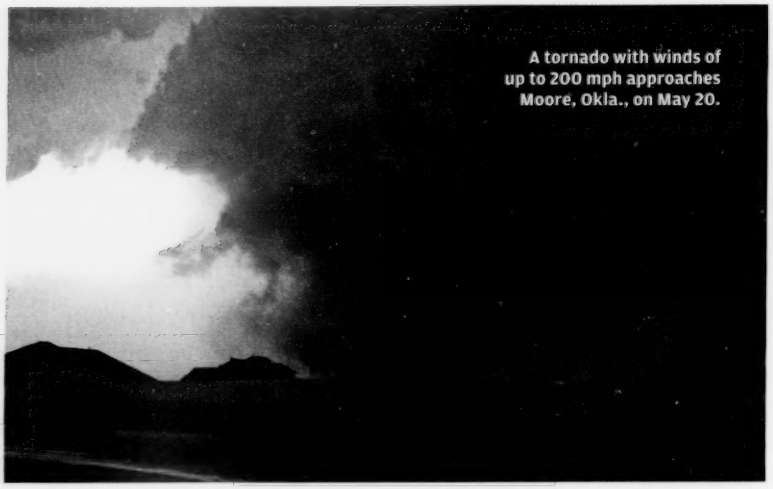

A tornado with winds of up to 200 mph approaches Moore, Okla., on May 20.

Data Centers Thrive In Tornado Country

In Oklahoma, data center operators can expect a strong electric grid, low energy costs and the 'greatest frequency of tornadoes in the U.S.' By Patrick Thibodeau

WHEN QUESTIONS ARISE about the threat of tornadoes to Perimeter Technology's Oklahoma City data center, Todd Currie has answers at the ready.

Perimeter's vice president of operations and general manager, Currie even has a cutout sample of the data center's roof to use as proof of the sturdiness of the facility, which was built to withstand an EF3 tornado. In the middle range on the Enhanced Fujita scale of tornado strength, whose ratings go from EF0 to EF5, an EF3 tornado has winds of 136 to 165 miles per hour.

There are good reasons for potential customers to ask the commercial data center provider about the threat of tornadoes.

The area around and to the southwest of Oklahoma City "has perhaps the greatest frequency of tornadoes in the U.S.," said John Snow, a professor of meteorology at the University of Oklahoma. Although he did acknowledge that "tornadoes are still very rare events at any particular location, even in the bull's-eye."

The probability that an EF2 or stronger tornado may strike anywhere in Oklahoma in any given year is 0.025%, according to the National Oceanic and Atmospheric Administration (NOAA). In comparison, it's 0.002% in New York City.

On May 20, an EF5 tornado unleashed 200 mph winds in Moore, Okla., just 20 miles from Perimeter's data center. But such events are extremely rare. NOAA estimates that about 95% of all tornadoes are below EF3 intensity, and only 0.1% achieve the EF5 level.

"It can sometimes take a little education on our part to explain that the true risk of the facility getting damaged by a tornado is very unlikely," said Currie.

Questions about tornadoes are more likely to come from out-of-state clients, who are unfamiliar with Oklahoma weather patterns, Currie added.

The Perimeter Technology data center in Oklahoma City is located in the middle of a building, surrounded by offices protected by an 8.5-in. exterior wall. And 8.5-in. concrete-reinforced interior walls surround the raised floor portion of the data center. "It's kind of like of a box within a box," Currie said of the design.

The data center roof is double-reinforced and thick enough to withstand the uplift of an EF3 storm. The thicker roof also improves the building's insulation, and thus helps cut cooling costs, Currie noted.

Perimeter also operates data centers in Tulsa (where the Oklahoma City operations can be moved if need be), Washington state and Texas.

Several major companies have data centers in Oklahoma, mostly because of its robust electric grid and low energy costs.

For example, Google is investing about $700 million to build data centers in Mayes County, about 150 miles northeast of Oklahoma City. Google declined to talk about the facility's design.

Tad Davies, senior vice president at the Bick Group, which designs data centers, said questions from potential customers may be convincing data center operators to build facilities to ever-higher standards. System uptime "is a high-stakes thing," he said.

One Oklahoma company apparently has a data center designed to withstand storms significantly more intense than EF5 tornadoes. Holder Construction's list of projects includes a data center for Oklahoma City-based Devon Energy that is "rated for 310 mph winds."

A Devon spokesman declined to comment on the project. ◆

> It can sometimes take a little education on our part to explain that the **true risk** of the facility getting damaged by a tornado is very unlikely."
>
> VICE PRESIDENT OF OPERATIONS AND GENERAL MANAGER, PERIMETER TECHNOLOGY

REUTERS/RICHARD ROWE

THE Grill

Rebecca Rhoads

Raytheon's CIO is taking on a new role with global reach.

What will your next act be? The one I just started in January, which is leading our Global Business Services, and IT.

What do you like to do when you're not working? Anything near or on the water.

What's your favorite vice? Hot sauce . . . on everything.

Your first job was ... making tacos at Taco Bell.

What are you reading right now? *What's the Future of Business? Changing the Way Businesses Create Experiences*, by Brian Solis

What's your favorite movie? *Tombstone*

PHOTOS COURTESY OF RAYTHEON CO.

REBECCA RHOADS *rose up from Raytheon's engineering ranks to become CIO, and earlier this year, her duties were expanded to include leading the defense contractor's newly formed Global Business Services unit. Here, Rhoads explains why she left the world of rocket science for IT, the importance of taking a long-term view, and how Raytheon, one of* Computerworld's *100 Best Places to Work in IT for 2013, is finally reaping the benefits of a multiyear business process standardization and ERP consolidation project.*

Why did you move from engineering to IT? In the '90s, everyone was looking at Y2K and as a systems engineer I saw some methodical ways to mitigate the risk. I found myself as intrigued and challenged by the science of running the company as I was by being involved in rocket science. I've never looked back.

What are your goals for the coming year? This year, the company [started] Raytheon

> **Once you have an architecture and know the applications that are strategic,** you know exactly what your priority is in terms of your cloud migration strategy.

Global Business Services, which I lead in addition to my IT organization. One of its aims is to improve operations and services by optimizing resources, including software and software services. In addition, we have several other initiatives underway: Outsourcing IT frameworks, [setting] up an on-premises infrastructure as a service and exploring software as a service.

You have been working to move six business units to a single SAP financials and manufacturing software platform. How is that going? Back in the late '90s when we merged five major aerospace and defense entities together, we had six major legacy portfolios. It was a multiyear strategy, and we started with processes and then put a platform in place. We're about 85% of the way there.

We started with finance, and that was a great lesson. If you start with finance, you've got your financial community as your ally and partner from day one. It's huge, because the first few go-lives are going to be a challenge. We've now had 33 successful go-lives.

What benefits have you seen? Our working capital for the last seven years or so has improved tenfold. The metrics are there when you have everyone on the same system. The other benefit is agility: how quickly we can adjust and incorporate process improvements. Typically if you apply improvements you go from left to right, business unit by business unit, site by site, and you slowly accumulate what that business case would have promised. When you're all on the same platform, you essentially kick everyone over on the same day.

You recently launched a zero-baseline initiative to consolidate systems and streamline your application portfolio. How's that going? After reaching the tipping point with our ERP consolidation, we had retired over 3,550 legacy systems. But the real question is, for the portfolio you have left, what is going to be of strategic value five years from now? If you're going into the future with the portfolio you have left, that's probably not going to be the right answer.

So we are doing a zero-baseline activity of what we have left; as we look out five years, we pretend we're working from a clean sheet of paper. In general, no matter how much you've improved your portfolio balance, you're going to find more opportunity that way.

We put our zero-baseline initiative in place last December. Somewhere between 80% and 90% of legacy applications had been retired during our ERP consolidation, and of the balance we've taken another 20% out of that legacy environment.

You are working on a next-generation data center that relies heavily on cloud computing and virtualization. What were your priorities? The way you leverage the cloud is to implement and migrate system by system, process by process, application by application. Once you have an architecture and know the applications that are strategic, you know exactly what your priority is in terms of your cloud migration strategy. That's what we have done.

The other priority we have is enterprise-level service and desktop virtualization. Our initiative is designed to migrate the information we still have out on desktop computers and our unstructured data repository to our cloud. The value for us is as much about security and risk management as anything, given that we have a lot of intellectual property, we're a global company and we're in the aerospace and defense industry. You bring all of that together and you have a business case.

Your internal social network, RSpace, has been successful with your users. What are the elements of that, and what made it take off? Integration is the trump card. It had to be completely integrated in the work environment that we use today for communicating, for collaborating, and how we flow information down through the company.

In our portal environment, RSpace is integrated within that. We also paid attention to what the work pattern would be and how people would use the information. Within the first six months, we had one-third of our employees adopt it. The next thing we knew everyone was on it and the CEO said, "I guess you don't have to ask if you can proceed with the pilot; it's already taken off."

What's the key to your success? When you've had a strong champion, an aligned senior leadership team, and you've had buy-in to a multiyear strategy, it's amazing what you're able to do.

– *Interview by* **Robert L. Mitchell**

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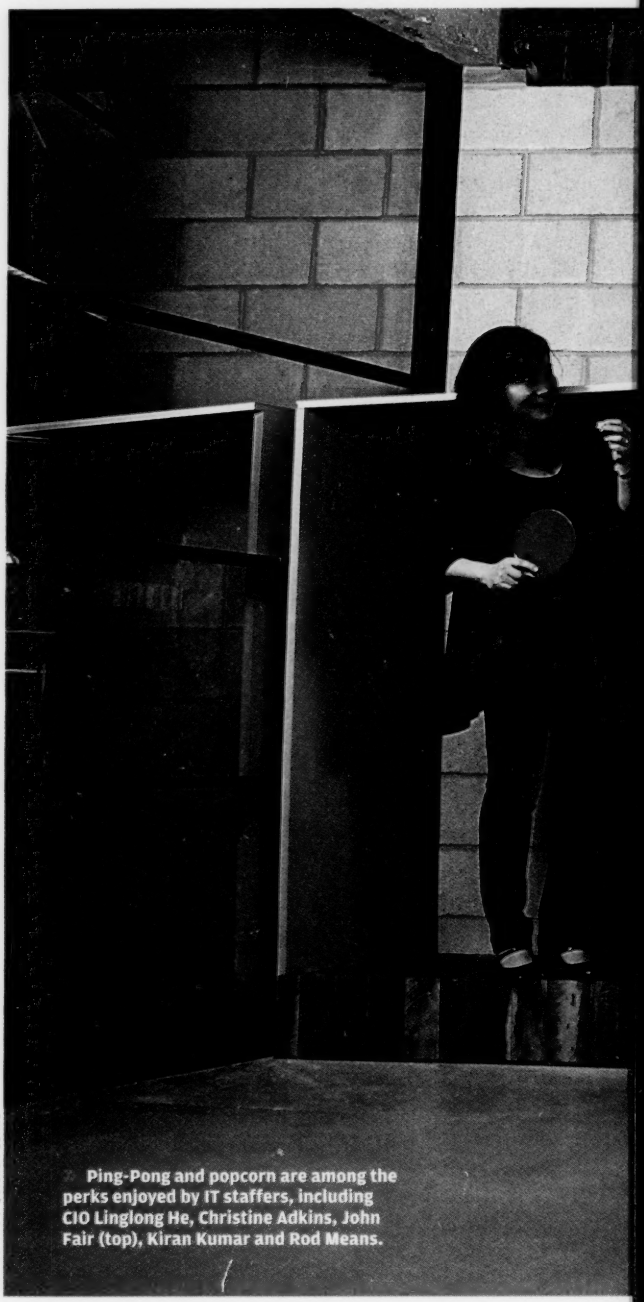
NO. 1

Quicken Loans



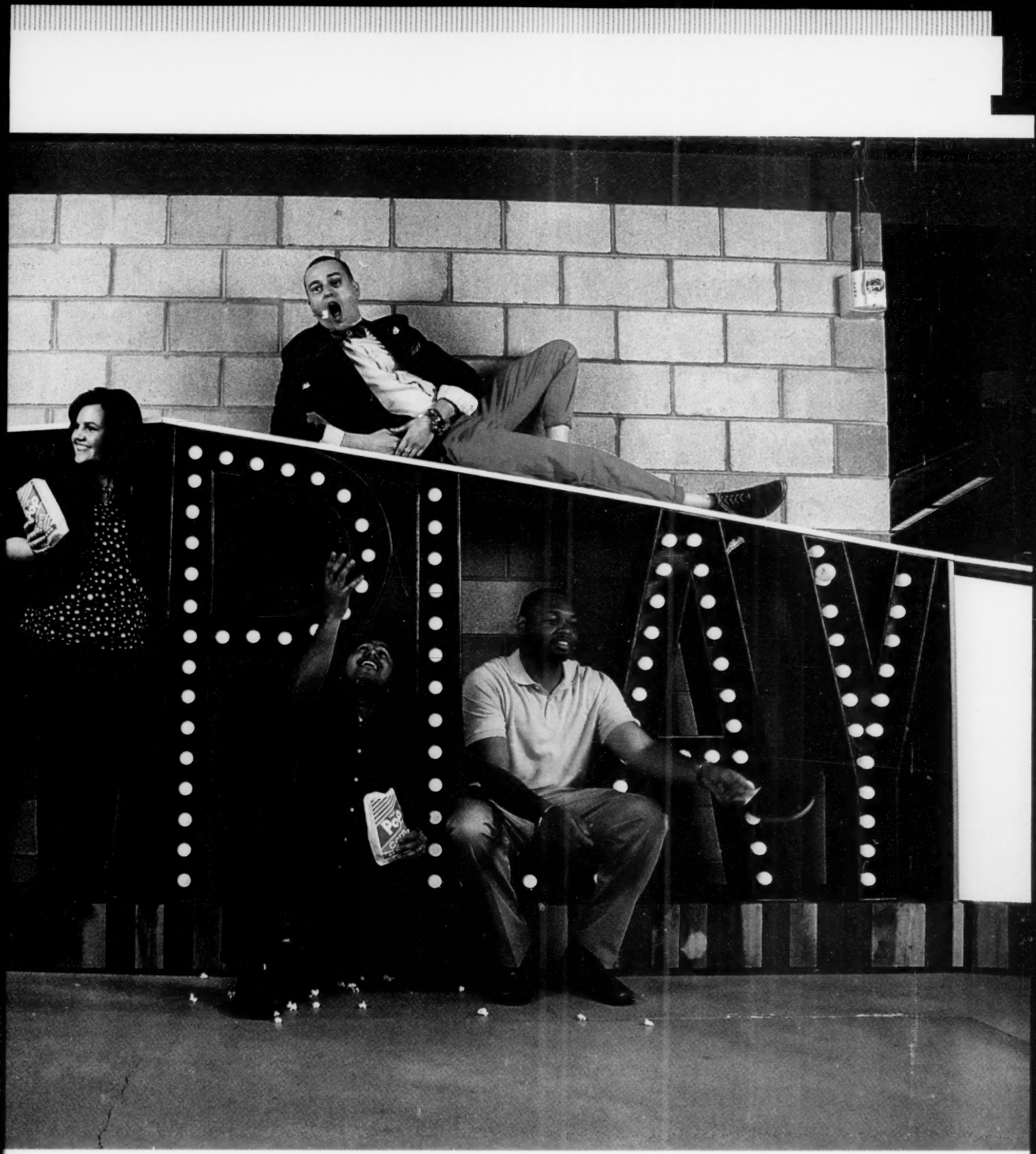
Ping-Pong and popcorn are among the perks enjoyed by IT staffers, including CIO Linglong He, Christine Adkins, John Fair (top), Kiran Kumar and Rod Means.

RAY RUSHING / QUICKEN LOANS

WALK INTO the IT department at one of Quicken Loans' downtown Detroit offices and you'll be met by a sea of big heads — not overblown egos, but giant cardboard faces like the ones that fans wave on sticks at basketball games.

"That's everybody's nametag now," says Pat Hartford, an enterprise architect who has been with the company for seven years. "Everybody has a picture of themselves at their desk that you can dress up however you want. It makes it easier to find people when you're walking" through the open office space.

IT employees enjoy the company's **relaxed atmosphere** *to be part of the* **revitalization** *of downtown Detroit.* BY



and **culture of innovation,** *but they're equally thrilled*

STACY COLLETT

Identifying co-workers became even more challenging in 2012 when the company beefed up its IT staff by 80% to more than 850 technology-related positions, in response to the escalating demands of a business that served more than 1.5 million customers and was handling $70 billion in home loans.

Other than ones of the cardboard variety, you won't find many swollen heads in the IT department at the nation's largest online retail mortgage lender, employees say. "Leaders tend to sit out on the floor with everybody else, because they are just like everybody else," says Hartford.

> **"I can pitch the best solution for the problem and be heard. I don't have to use the same technology we've done before."**
>
> **JOHN FAIR,** SENIOR SOFTWARE ENGINEER

Employees say there are few barriers — physical or bureaucratic — at Quicken Loans. "I've had conversations with [CEO] Bill Emerson in the hallway," says Tim Brickey, a business intelligence engineer who joined the company in 2009. "The first time, I was terrified. But now I know he's funny and friendly — and he knows my name."

CIO Linglong He says the keys to staying engaged with so many employees are to always walk the floor and to empower rank-and-file staffers. "We give team members the tools, the training and the freedom to grow. They take ownership and actually can make an impact on the outcome," she says.

Teams consist of about five to 10 people, and leaders hold biweekly meetings to make sure that morale is high and that projects are moving along without obstacles. "I always try to figure out where people's passions are and really connect them to that passion," says Noah Ravenscroft, senior vice president of application development. "If we're driving toward that, folks are much more productive and happier."

As CIO, He says that she tries to make sure that "every single team member lives and breathes the same culture." Employees are guided by 19 corporate ideals — or as Quicken calls them, *isms* — that the entire company lives by. Those isms include "Always raising our level of awareness," "It's not about *who* is right, it's about *what* is right," "Yes before no" and "Innovation is rewarded. Execution is worshipped."

Leaders and employees recognize people who do things that embody those ideals by nominating them for monthly ISM Awards. And each year, executives give Gilbert Awards to those who exemplify the isms at the highest degree. Named after Quicken Loans founder and chairman Dan Gilbert, Gilbert Awards are presented at an Academy Awards-type event.

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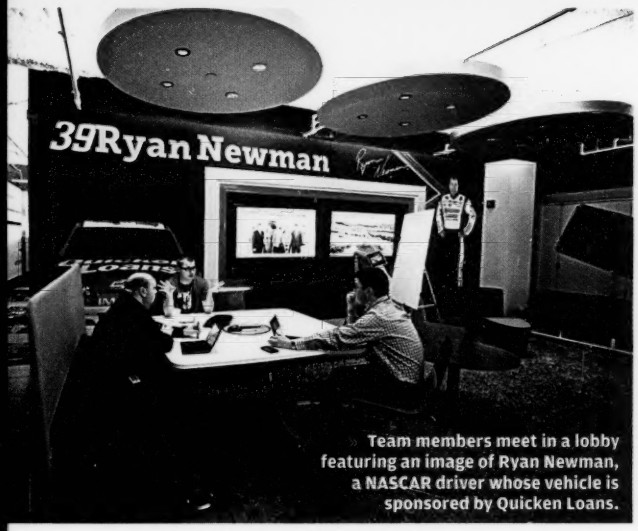

Team members meet in a lobby featuring an image of Ryan Newman, a NASCAR driver whose vehicle is sponsored by Quicken Loans.

"It's a great way that leaders and team members acknowledge the work we do," says Brickey, who has won both an ISM Award and a Gilbert Award in his four years at the company.

Quirks and Perks

David Polidori, director of platform engineering, credits the executive team for giving directors like him "the leniency to do what we need to do to keep that culture" and to pass it forward.

IT staffers, for instance, participate in informal weekly "innovation time" where they can freely explore and prototype ideas. "It's a very good investment. The team members love it, the business loves it and the impact is huge," says He.

With vibrant colors and an open floor plan, Quicken Loans' offices were designed to encourage creativity. Adding to the relaxed environment are Xboxes, Ping-Pong tables, all-you-can-eat popcorn, free-flowing slushies and a weekly dose of veggies and hummus. At "Big Wheel parking stations," employees can grab a three-wheeler or a scooter for an indoor spin.

"I use the scooters to get just about everywhere," says John Fair, senior software engineer. His day typically starts at 8:30 a.m., and then he'll spend an hour or more in meetings, depending on a project's status. "I go to a couple different 'stand-up' meetings, which are short five-to-10-minute briefings," says Fair. The rest of his day is spent on engineering work at his standing desk. "I think better on my feet," he says, adding that he may try a treadmill desk that sits on another floor.

His favorite perk, though, is the freedom to choose the right technologies for his projects. "I can pitch the best solution for the problem and be heard. I don't have to use the same technology we've done before — I'm encouraged to look into it. I wake up every morning excited to do that."

A close second, he says, might be tickets to Cleveland Cavaliers

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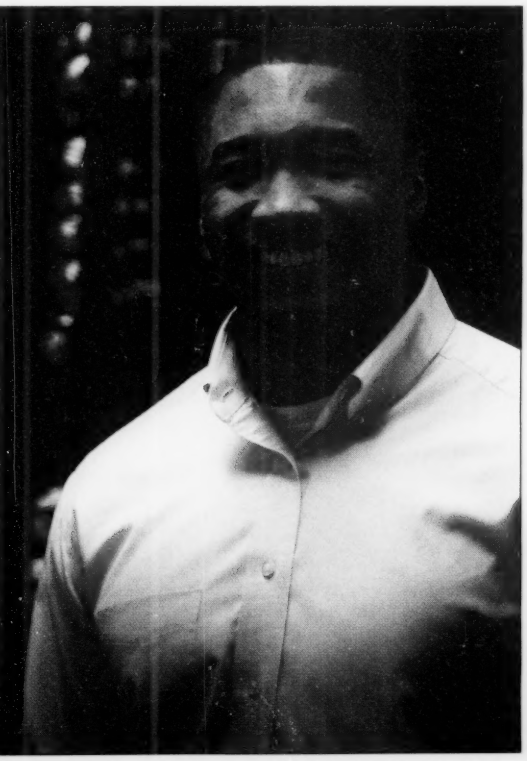

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basketball games that Gilbert (the team's majority owner) occasionally gives away. "There will be contests, or you'll hear our CEO over the loudspeaker saying, 'Caller No. 20 will get tickets to the game.' You'll hear his phone start to ring in the background," Fair says.

Location, Location, Location

In 2009, Gilbert committed to playing a role in revitalizing Detroit into a tech-focused urban core. Today, Quicken Loans occupies several downtown buildings, some just steps from Comerica Park, where the Detroit Tigers play, and Ford Field, home of the Detroit Lions. New apartment buildings have gone up near its offices, and more than 70 companies have moved to or opened new shops in downtown Detroit over the past three years.

"There's an absolute positive with working downtown," Polidori says. "I grew up in Dearborn, which is 10 to 12 miles from here. I spent a lot of my childhood at the old Tiger Stadium and downtown. So it was pretty cool to move down here." He says employees love the fact that they can go to Tigers games after work, or maybe walk by the stadium at lunch during a day game and get 10 minutes of baseball in before heading back to the office.

IT employees relish their part in the rebirth of the Motor City. "You can be part of the solution here," Ravenscroft says. "It's something greater than just Quicken Loans. You're part of the revival of Detroit." ◆

Collett *is a* Computerworld *contributing writer. You can contact her at stcollett@comcast.net.*

"You can be part of the solution here. It's something greater than just Quicken Loans. You're part of the revival of Detroit.

NOAH RAVENSCROFT, SENIOR VICE PRESIDENT OF APPLICATION DEVELOPMENT

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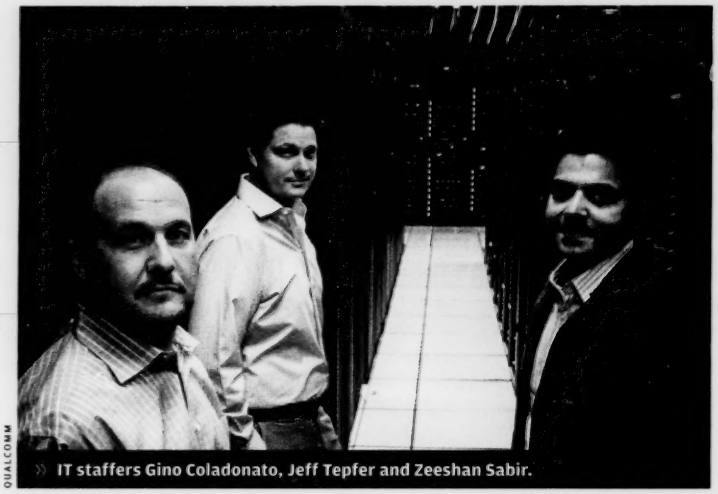
8 Qualcomm

Overseas opportunities, cutting-edge tech and ample rewards keep IT workers engaged. BY ROBERT L. MITCHELL



QUALCOMM

» IT staffers Gino Coladonato, Jeff Tepfer and Zeeshan Sabir.

For Jeff Tepfer, working at a big high-tech company like Qualcomm has outsized advantages, including opportunities to work abroad. "Working on-site in India, China, Taiwan and other locations has been a great experience," he says.

As a senior IT architect, he's exposed to state-of-the-art technologies through his involvement in a project to build a 1.8-megawatt modular data center at Qualcomm's headquarters in San Diego. "Things are never boring or routine," he says.

Qualcomm has plenty of ways to recognize its IT professionals, including awards ranging from gift certificates to international vacation packages. Tepfer was a recent recipient of the annual IT Innovation Award, receiving $10,000 for his work to increase the energy efficiency of Qualcomm's data center.

IT is respected and works well with the business divisions, says Brian Baker, vice president of IT. He describes Qualcomm CIO Norm Fjeldheim as "interactive" and "candid" and says he has "a good sense of humor during the tough times." To foster open communication, Fjeldheim hosts regular "Nosh with Norm" lunches with small groups of IT staffers.

The company pays 100% of health insurance premiums for employees and offers some unique perks, including on-site medical offices. ◆

2 USAA

No. 3 for training

When asked what they like most about working at this San Antonio-based provider of financial services for the military community, employees often cite the sense of purpose and pride they get from helping military families. USAA offers generous benefits and workplace amenities such as holiday parties for employees' children. IT workers can connect with like-minded individuals for mentoring, growth and fun through grass-roots employee communities.

3 CareerBuilder

No. 2 for training

IT workers at this jobs website and staffing firm in Chicago enjoy a range of perks, including flexible work arrangements, a casual dress code, education reimbursement, half-day summer Fridays and all-expenses-paid company trips. They're encouraged to submit business ideas for a chance to win $60,000 to launch their own business unit within CareerBuilder.

4 Commonwealth Financial Network

No. 4 for retention

Every IT employee at this financial services company in Waltham, Mass., contributes to the technology direction of the organization, creating and seizing opportunities that help the business thrive. The work environment is agile and fast-paced, but the company strives to support employees' work/life balance with benefits such as telecommuting, job-sharing arrangements and wellness and employee assistance programs.

5 World Wide Technology

No. 9 for retention

This St. Louis-based IT services provider subsidizes up to 90% of the cost of employee health insurance and hasn't raised employees' premiums, co-pays or deductibles in nearly a decade. A mentoring program pairs new IT hires with experienced workers, while a leadership and management program helps established IT employees further their careers.

6 Sharp HealthCare

No. 3 for diversity

This group of hospitals and healthcare facilities in the San Diego area puts an emphasis on listening to employees, treating them well, and recognizing and rewarding their achievements. The organization's Employee Action Committee collaborates with IT staffers to identify technology needs and improve operations within the department. Among other things, those efforts have resulted in the installation of projectors and PCs in conference rooms to minimize delays caused by equipment setup and teardown for the organization's many working meetings.

7 Transocean

No. 10 for training

IT workers at this deep-water drilling company, with U.S. headquarters in Houston, can start the weekend early: They work nine hours a day Monday through Thursday and a half-day on Friday. IT morale is boosted by open and accessible leaders, who thank employees through both formal recognition programs and informal spot awards.

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9 Genentech

No. 4 for benefits

Helping people with difficult-to-treat diseases provides a common mission for workers at this biotechnology company in South San Francisco. IT employees have access to the latest tools and technologies, and each year the entire IT organization takes a day off-campus where employees meet patients and hear their stories, reinforcing the workers' drive to innovate and do their best.

10 Pricewaterhouse-Coopers

No. 10 for benefits

IT pros at this New York-based accounting firm keep their skills current and marketable. Their projects range from handling cloud-based security, compliance and privacy issues to implementing a mobile app store, a BYOD program, an internal social network and green computing practices. PwC's top-flight benefits include paid shutdown days during the holiday season and medical insurance coverage for domestic partners.

12 General Mills

No. 1 for benefits

Employees value the collaborative culture at this Minneapolis-based food giant. At weekend off-site sessions, IT staffers can pitch ideas and work with others to develop business cases and prototypes, with some of these efforts turning into department projects. Employees also learn about new technologies on the job through projects that have included the deployment of an identity access system and the implementation of a mobile accelerator framework using responsive design.

13 Erickson Living

To develop their professional and technical skills, IT workers at this Baltimore-based operator of retirement communities work with a diverse set of platforms and applications, from core infrastructure elements to point-of-sale systems, electronic medical records and digital signage. Every employee has an individual development plan that maps out diverse career path opportunities.

14 National Information Solutions Cooperative

No. 5 for training

The casual but professional atmosphere at this data-processing and billing company in Lake Saint Louis, Mo., appeals to employees, as do the shared values – integrity, relationships, innovation, teamwork, empowerment and personal development – that are listed in the company's lobby. Staffers can enjoy the latest technology at home by purchasing computer equipment with the help of a program that provides interest-free loans of up to $3,500, which are repaid over two years through payroll deductions.

11 National Rural Electric Cooperative Association

On-site training, mentoring and a creative culture help IT employees grow into new roles. BY TRACY MAYOR

P.J. BARBOUR / NRECA

» IT staffers David Wilson, Ying Zhou, Patricia Hill-Davidson, Kamal Ahmed and Tom Carnahan with a statue honoring the linemen who work for electric utilities.

Don't get her wrong – Lisa Hanson loves the benefits provided by the National Rural Electric Cooperative Association, a service organization for more than 900 rural electric cooperatives and public power districts. But when Hanson, a senior technical training adviser, stops to consider why she left the corporate world seven years ago to join the nonprofit organization, she says it came down to NRECA's investment in its people.

The Arlington, Va.-based association sends all new employees on a fully paid trip to a member cooperative, which Hanson finds particularly helpful for IT staffers. "Meeting folks that actually work at a co-op, seeing the live power lines and the safety [procedures] that the linemen go through, it allows you to understand what you're working for," she says.

Other professional development opportunities for NRECA IT employees include custom on-site classes and workshops, a Center for Creative Leadership and "Innovation Days" – a program that encourages employees to find creative ways of applying technology to benefit the business.

Hanson has twice taken part in a mentoring program through which she has paired off with senior managers to take on projects outside her regular responsibilities. "Some IT organizations say, 'You're good at this; keep doing it,'" she says. "This IT group, they allow you to explore." ◆

15 Verizon Wireless

This telecommunications company in Basking Ridge, N.J., invests in its IT employees' growth with online training, instructor-led courses and up to $8,000 per year in tuition assistance. IT staffers collaborate with business colleagues to develop key customer-facing initiatives such as Verizon's Share Everything plans.

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16 Jet Propulsion Laboratory

Employees at this Pasadena, Calif.-based NASA research and development center are completely mobile. They can work outside, meet in high-tech conference rooms or use a telepresence robot to "walk" through JPL's facilities while working from home. IT workers are encouraged to explore emerging technologies, create prototypes and share their knowledge through a summer student mentoring program.

17 Applied Materials

This maker of semiconductor production equipment in Santa Clara, Calif., actively encourages telework with an array of technologies and training programs that offer tips for those who run meetings to help them engage all participants, not just those who are physically in the room. With the company's support, 70% of its U.S. employees work from home at least one day per week.

18 Securian Financial Group

IT workers value the collaborative and respectful environment at this financial services and insurance company in St. Paul, Minn. On average, IT staffers receive seven days of training each year, and Securian reimburses up to $5,000 in tuition expenses. The IT department sponsors activities such as community service projects, theater outings, holiday celebrations and happy hours.

20 Lehigh Valley Health Network

IT leaders at this health services group in Allentown, Pa., want their staffers to be engaged in and challenged by their work. Employees are encouraged to find emerging technologies that can improve the patient experience, and they say these projects are among the most satisfying they get to work on.

21 OhioHealth

IT workers at this regional healthcare system in Columbus can take advantage of numerous incentives to promote healthy living. This family-friendly workplace offers generous paid maternity and paternity leave, as well as financial reimbursement and paid leave for employees who choose to adopt children.

22 Prudential Financial

IT employees at this Newark, N.J.-based life insurer value the company's support for work/life balance. During Hurricane Sandy, they were able to stay home and tend to their families' needs while using remote access capabilities to remain in contact with the office and keep systems up and running with no disruptions to customers. In 2012, the company hired 24 military veterans through the VETalent program, offering them jobs in IT, operations and customer service.

NO. 19

CSX

A people-first culture keeps IT staffers connected to the business users they serve. BY KEN GAGNÉ

» IT staffers Srini Manchikanti, Kathleen Brandt (seated), Syvility Broaden, Kari Damrow and Michael Hendrix.

CSX

In a shaky economy, some IT workers may feel that they have limited career options and are being railroaded into jobs they don't like. Not so at CSX, which is all about mobility.

Kari Damrow, manager of IT operations, has experienced a range of roles at the Jacksonville, Fla.-based rail transportation company. Formerly a software engineer and then a project manager of end user services, she's seen more than just the technology that keeps trains running.

"We're given the opportunity to see the day-to-day life of those running the railroad, so we can understand the work environment of our end users," says Damrow. "You're not pigeonholed into technology and sitting behind a computer; we're included as part of the railroad."

Whether employees want to move upward or sideways, CSX is the place to be, according to Michael Hendrix, technical director of enterprise services. "We have a real, sincere focus on developing our talent," says Hendrix, who has a background in finance and built his own IT career at CSX.

At CSX, career advancement is driven by more than impressive résumés. "We really have a culture that feels [that] people make the difference," says Hendrix. "It's not the tools or the skills – it's the people that drive the solutions that help make us successful, not just in IT but across the business, serving America's transportation needs." ◆

– GAGNÉ IS A FREELANCE WRITER FOR *COMPUTERWORLD* AND *PCWORLD*. YOU CAN CONTACT HIM AT KGAGNE@GAMEBITS.NET.

TOP 10 RANKINGS

SOURCE: *COMPUTERWORLD'S* 2013 BEST PLACES TO WORK IN IT SURVEY

» BENEFITS

1 General Mills 2 National Rural Electric Cooperative Association 3 Sacramento Municipal Utility District 4 Genentech 5 American University 6 Intuit 7 Campbell Soup 8 Medtronic 9 Nova Southeastern University 10 PricewaterhouseCoopers

» TRAINING

1 National Rural Electric Cooperative Association 2 CareerBuilder 3 USAA 4 UHC (University HealthSystem Consortium) 5 National Information Solutions Cooperative 6 LINN Energy 7 Reed Technology & Information Services 8 Jack Henry & Associates 9 Quicken Loans 10 Transocean

» RETENTION

1 National Rural Electric Cooperative Association 2 Quicken Loans 3 SimpliVity 4 Commonwealth Financial Network 5 USAA 6 Jack Henry & Associates 7 Ping Identity 8 CareerBuilder 9 World Wide Technology 10 LINN Energy

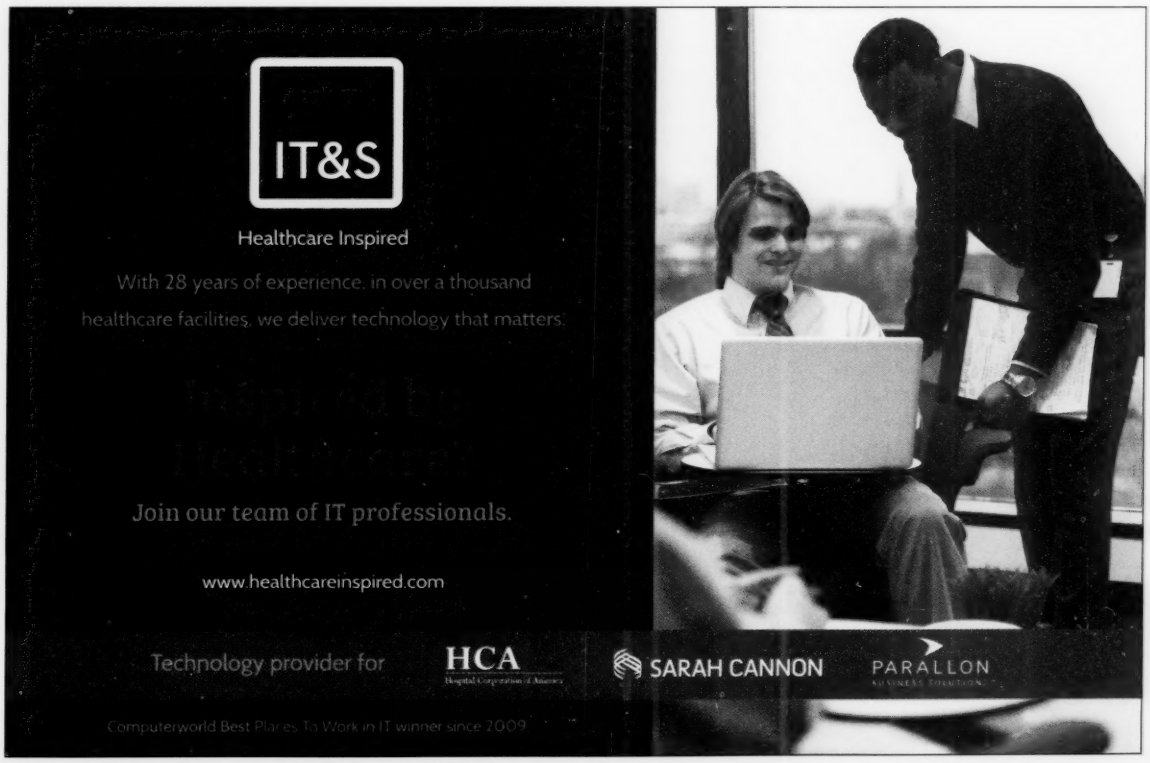
» DIVERSITY

1 Miami Children's Hospital 2 Nova Southeastern University 3 Sharp HealthCare 4 Quicken Loans 5 NextEra Energy 6 AT&T 7 George Washington University 8 LINN Energy 9 Children's Hospital of Philadelphia 10 WellPoint

» CAREER DEVELOPMENT

1 MetroStar Systems 2 PPG Industries 3 BNSF Railway 4 Quicken Loans 5 CME Group 6 Enova International 7 Commonwealth Financial Network 8 LINN Energy 9 NIIT Technologies 10 World Wide Technology

See "How We Chose the 100 Best Places" at computerworld.com/2013bestplaces for details about these rankings.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23 Vanguard Group

This Valley Forge, Pa.-based investment firm provides numerous opportunities for IT staffers to develop their talents and advance their careers, including a program in which workers investigate emerging technologies and determine how they can be used to serve Vanguard clients. In the past few years, the company has opened offices in the U.K., Switzerland, Hong Kong and Canada, giving employees a chance to pursue opportunities abroad.

24 SAS Institute

IT employees at this software company in Cary, N.C., enjoy the freedom to think creatively, approach problems from multiple directions and compare all options to come to the best solutions for customers. They have the flexibility to set their own schedules and work from various locations – an approach that motivates IT staffers to achieve their highest potential, the company says.

25 Monsanto

At this St. Louis-based biotechnology giant, IT is fully embedded with the business. Monsanto will soon launch its first IT-driven product platform, Integrated Farming Systems, which uses proprietary algorithms to help farmers decide which seeds to plant in which parts of their fields. Staffers can take advantage of IT-specific leadership training opportunities developed in-house.

26 American Fidelity Assurance

IT leaders at this Oklahoma City-based health and insurance company help staffers develop clearly defined career paths. IT employees expand their knowledge and skills by working closely with business end users on project teams. Benefits include free on-site primary medical care, an on-site fitness center and a wellness program for employees and their families.

27 Principal Financial Group

Learning opportunities abound for IT professionals at this Des Moines-based financial services provider. To pursue their career interests, IT employees can request specific work within their current team or take advantage of job rotation or team transfer options. IT workers at every level have direct interaction with business partners.

28 Nationwide Mutual Insurance

Teamwork and training help IT workers tackle an array of challenging technology projects. BY MARY K. PRATT

TOM GRIFFIN / NATIONWIDE

» IT staffers Jacob Bennett, Melanie Kolp, Michael J. Richardson, Shalini Sathyanarayana and Marcia Jones.

Jacob Bennett's work routine at Nationwide includes "gemba walks," brief visits with colleagues or teams to talk about ideas or problem-solve. Nationwide IT staffers also have regular "huddles," where teams get together to talk about what's working and what's not. And every other week there's a Teaching Thursday, when Bennett and his colleagues can spend two hours attending classes offered by co-workers or use that time to study for other classes.

A requirements analyst at the Columbus, Ohio-based insurer, Bennett says IT team members put that training to good use when they work on major initiatives like updating legacy systems or deploying mobile applications for customers and agents. "There's a diversity of work," he says, and that work takes place in an encouraging and supportive atmosphere.

A variety of factors contribute to the IT department's positive environment, says executive vice president and CIO Mike Keller. For one thing, the company has undertaken a number of technology projects aimed at transforming the business, and those projects present fresh challenges to Nationwide's nearly 5,000 internal IT professionals. And the corporate culture emphasizes collaboration, integrity and career development. Keller says it's all aimed at creating a place where people can do their best work – and that's a philosophy that permeates the entire company. ◆

– PRATT IS A *COMPUTERWORLD* CONTRIBUTING WRITER IN WALTHAM, MASS. YOU CAN CONTACT HER AT MARYKPRATT@VERIZON.NET.

29 CHG Healthcare Services

Employees at this healthcare facilities staffing firm in Salt Lake City can take advantage of tuition reimbursement of up to $3,000 per year and can participate in leadership training programs that have boosted the number of internal promotions. In 2012, 75.9% of all new leaders were promoted from within the company. Two on-site wellness centers offer employees convenient access to healthcare and fitness perks such as free yoga and Zumba classes.

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31 Texas Health Resources

All IT workers at this nonprofit healthcare system in Arlington, Texas, have personal development plans for growth in technical and leadership areas. Employees can take advantage of learning opportunities such as an intense, one-year mentoring program or a program that lets workers shadow a nurse, spend time in a lab or observe radiology staff.

32 Caesars Entertainment

IT employees and managers at this Las Vegas-based gaming giant work together to deliver high-quality IT services in a 24-hour environment, while the company offers benefits to support their work/life balance. Staffers can receive preventive health screenings at little or no cost; those who participate in screenings and condition-management programs receive healthcare premium discounts.

33 LINN Energy

No. 6 for training

Employees at this Houston-based oil and gas company enjoy a dynamic work environment. In less than five years, IT has teamed with business partners on more than 200 initiatives, including cutting-edge infrastructure projects and ERP implementations. Perks include spot cash awards, health benefits that are 90% subsidized, flexible schedules, leadership training programs and quarterly team-building events.

34 Kaiser Permanente

This health maintenance organization based in Oakland, Calif., aims to keep workers healthy by subsidizing gym memberships and offering on-campus fitness centers and farmers markets. In 2012, IT launched a mobile app that provides the HMO's 9 million members with 24/7 access to their medical records.

35 University of Notre Dame

In addition to competitive pay, IT employees at this private Catholic university in Notre Dame, Ind., receive world-class educational benefits, including the opportunity to take one undergraduate or graduate course per semester with 90% to 100% of the tuition waived. Children of longtime staffers are eligible to receive a tuition benefit equal to 50% of the cost of Notre Dame's tuition for use at Notre Dame or any other accredited four-year educational institution.

36 Cedars-Sinai Health System

In 2012, this Los Angeles-based nonprofit healthcare provider expanded the IT shop's office space by 30,000 square feet, creating an open and collaborative environment with natural light and sweeping views of the mountains and ocean. Expanding employees' skills and knowledge is a key focus. For example, in conjunction with its effort to roll out electronic medical record technology, Cedars-Sinai supported more than 100 employees in their efforts to earn EMR certifications.

NO. 30 Cancer Treatment Centers of America

Career development, education and skills training take center stage. BY REBECCA LINKE

TOM GERCZYNSKI

» IT staffers Caroline Michiels, Jeff Bilbrey, Ric Troll, Chris Downs and Amy Burow with CIO Chad Eckes (right).

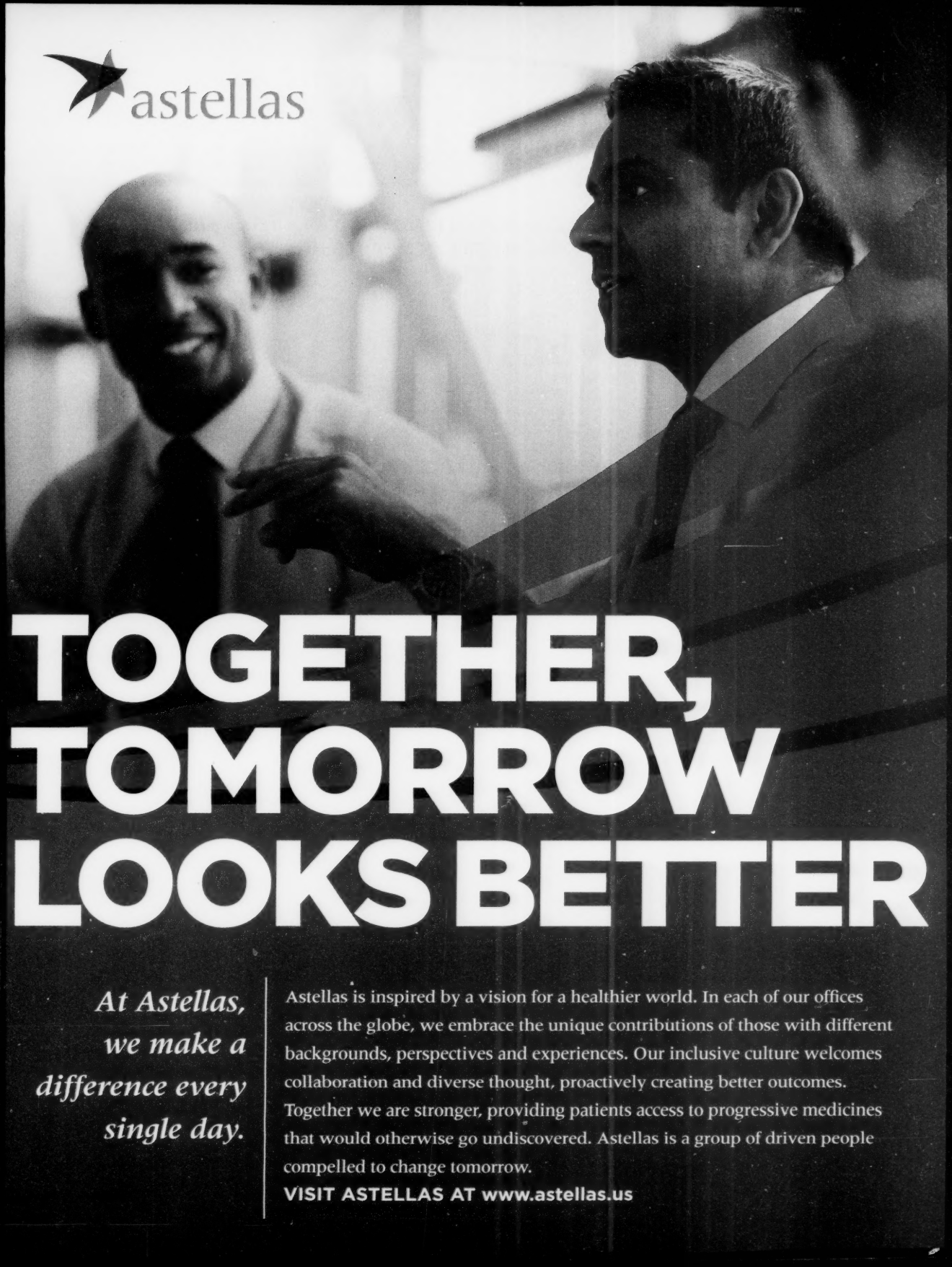
IT pros at Schaumburg, Ill.-based Cancer Treatment Centers of America don't have to wonder about their next career move. Employees, known as stakeholders within the organization, work with their managers to plot step-by-step plans for moving into their next two positions.

"CTCA is interested in helping employees get to that next level," says IT site liaison Amy Burow. "If you show initiative and are open about wanting to take on more responsibility, they are going to give you the tools you need to do that."

To that end, CTCA offers extensive training opportunities and 100% tuition reimbursement — a perk that many IT staffers use as they pursue bachelor's or master's degrees. Says CIO Chad Eckes, "We are always willing to pay for any coursework that has to do with an individual's role and responsibilities within IT."

IT professionals are drawn to CTCA by the cutting-edge technology in use at the organization, which runs cancer treatment hospitals across the U.S. One project involves creating an interface for the transmission of data between infusion pumps and CTCA's electronic health record system.

But employees never lose sight of the main reason for working at CTCA: to develop ways to help cancer patients. "The technology piece is exciting," says Burow. "But really the technology is driven by our mission." ◆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37 Reed Technology & Information Services

No. 7 for training

With numerous recognition programs, this content management provider in Horsham, Pa., makes sure its workers know they're valued. IT professionals can take advantage of self-guided training or attend seminars or conferences. The company reimburses employees for college tuition, technical certifications and executive education programs, and it offers paid time off for employees to volunteer their services to the community.

38 Discover Financial Services

Flexibility is paramount at this Riverwoods, Ill.-based financial services firm. In addition to flexible schedules and telework options, employees receive 25 days or more of paid time off that they can use for sick time, personal days or vacation as they see fit. Discover's benefits program, branded Livewell, offers a range of educational resources, services and programs that address health improvement, financial planning and work/life balance.

40 UHC (University HealthSystem Consortium)

No. 4 for training

This Chicago-based alliance of nonprofit academic medical centers supports employee growth by offering e-learning programs, classroom training, and reimbursement for college tuition and for the costs of certifications. It frequently acquires and integrates leading-edge technologies for on-the-job learning experiences. Telework, flexible hours, compressed workweek options, an on-site fitness club, and health and wellness screenings help keep employees healthy and balanced.

41 Altria Client Services

With a new focus on innovation, this Richmond, Va.-based tobacco company encourages employees to think differently and celebrate failures as lessons learned. "Brain Breaks" let employees connect with peers by engaging in nonwork conversations over snacks. Telecommuting and summer half-day Fridays are also popular perks. The IT University helps employees complete project management or business analyst certifications, take courses in specific technology areas and develop business skills.

42 HCA

IT workers at this Nashville-based for-profit hospital operator have abundant career development opportunities, from IT Training Days, where key vendors deliver customized technical training, to the Emerging Leaders Program, which prepares high-potential employees for leadership roles through mentoring and development plans. Recognition programs include public commendations, cash awards and an annual Award of Excellence.

43 Miami Children's Hospital

No. 1 for diversity

This pediatric healthcare provider in Miami supports IT employees' flexible working arrangements, offering secure remote connections for telecommuters, flextime, and paid time off that can be used for vacation, personal days or sick leave. The generous IT referral program awards $5,000 to employees who recommend candidates who are ultimately hired for hard-to-fill IT positions.

NO. 39 Jack Henry & Associates

IT pros revel in the fast pace, challenging projects and prevailing can-do spirit. BY MARY K. PRATT

JACK HENRY & ASSOCIATES

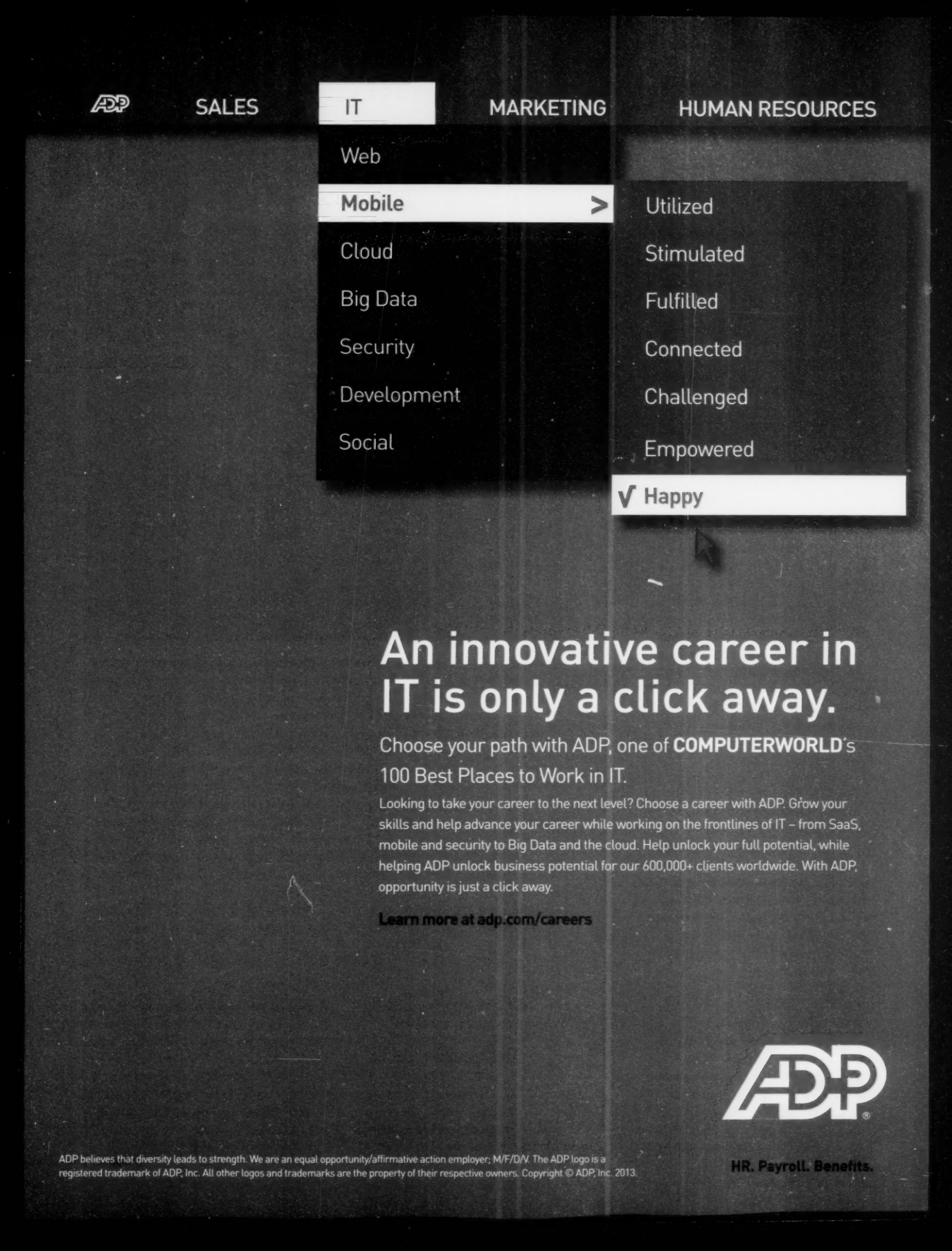
» IT employees enjoy both the challenges and the camaraderie at Jack Henry.

The IT work at Jack Henry & Associates keeps Sean Burch, a systems and network administrator, on his toes. "A typical day for me involves interaction with multiple teams to plan and implement solutions that will keep Jack Henry's customers running at full steam," he says.

The Monett, Mo.-based IT services provider is a high-energy workplace, he says, and that energy is complemented by a positive attitude in the IT department. "From structured meetings to impromptu collaborations, I constantly have the chance to work with outstanding individuals that are always thinking about how we can improve our services, infrastructure and products," he adds.

Scott Whisman, who as general manager of corporate services is the senior IT person, says his 300-member IT department follows the company's guiding principle: "Do the right thing, do whatever it takes, and have fun."

"JHA is genuinely concerned for our people, and we are committed to making them successful," he says. "We expect a lot from our folks, and the workloads are heavy. However, when you're working for a company that fully supports your efforts and highly values your contributions, it makes the job very enjoyable." ◆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HR. Payroll. Benefits.

44 NextEra Energy

No. 5 for diversity

IT employees at this energy producer and distributor in Juno Beach, Fla., get to work on interesting projects such as a technology dashboard that provides a 360-degree view of a utility customer's experience. The company's health and wellness program provides on-site medical care, fitness facilities and classes, nutrition services, parenting resources and more.

45 Cerner

This Kansas City, Mo.-based provider of clinical and administrative IT systems to the healthcare industry is serious about the well-being of its employees. They can receive alerts and recommendations from a personal health record system or complete preventive care activities to earn points toward health premium reductions. A mental health offering called MyBrainSolutions helps workers improve concentration and manage stress.

46 Palmetto Health

This not-for-profit healthcare system in Columbia, S.C., provides leadership training for IT pros through its own Leadership Institute and through courses offered in partnership with a local university. IT staffers rally around one another in times of personal crisis, cooking meals, covering time off and otherwise offering support.

47 Children's Hospital of Philadelphia

No. 9 for diversity

Events such as Stress Relief Day, which features 10-minute chair massages, are among the perks offered to employees at this pediatric healthcare provider in Philadelphia. Staffers can submit technology ideas for "The Next Big Thing." If their ideas are approved, the employees are given time to complete their projects.

48 MetroStar Systems

IT workers get plenty of support for achieving their career goals. BY STACY COLLETT

HEI-LUN LEE

IT team members Douglas Hensel, Hector Portillo and Jessica Shaver bat around a few ideas.

MetroStar emerged in 1999 as a fresh alternative to the traditional behemoth federal contractor. Today, young workers flock to the IT services firm for its high-energy atmosphere, cutting-edge technology and flexible, family environment. The Reston, Va., headquarters "seems more like a dot-com in Silicon Valley than a 'Beltway Bandit'" firm, says Ken LaVolpe, director of infrastructure. "The culture is really a young feeling of collaboration and creativity."

MetroStar tops this year's Best Places list for career development opportunities. Employees can work with managers to set up individual career plans and identify short-term and long-term professional goals. The firm offers a yearly stipend that employees can use to pay for courses necessary to achieve those goals, and other job-related training. "I completed two Microsoft certifications in this past year which were completely paid for," says Johnny Bouder, a software engineer.

"The company is genuinely interested in keeping employees happy and building relationships," adds software engineer Gerald Irish. "I feel like it's an organization I can grow with." Two years after joining MetroStar, Irish took a month off, including a week of unpaid leave, to travel through Europe. "They knew it was important to me, and they found a way to make it work."

MetroStar also values veterans, says Bouder, a former Marine who served two tours in Iraq. "They're always looking for good people, as opposed to just somebody with tech experience." ◆

49 AT&T

No. 6 for diversity

Employee development is a watchword at this Dallas-based telecommunications provider, where employees get highly detailed personal training plans. In 2012, AT&T IT staffers completed more than 545,000 hours of training and self-development activities, with many earning certifications in emerging areas such as agile software development.

50 George Washington University

No. 7 for diversity

This university in the District of Columbia offers its employees competitive pay, outstanding benefits and many professional development perks, including 96% coverage of tuition and expenses for employees who are enrolled in undergraduate, graduate, doctoral and nondegree programs. The university encourages employees to acknowledge their colleagues' achievements, and the Division of IT regularly recognizes employees who earn certifications, complete degree programs or reach career milestones.

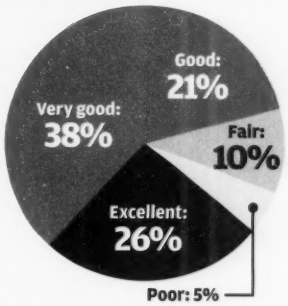
EMPLOYEES BY THE NUMBERS

SOURCE: COMPUTERWORLD'S 2013 BEST PLACES TO WORK IN IT EMPLOYEE SURVEY, 27,779 RESPONDENTS

» WHAT ASPECTS OF YOUR JOB ARE MOST IMPORTANT TO YOU?

Being fairly compensated for the work I do	94%
Working in an enjoyable environment	93%
Having the means and opportunity to further my career	87%
Having access to training and opportunities that further my skills	85%
Working in a challenging environment	78%

» RATE YOUR IT DEPARTMENT MORALE



» WHAT BENEFITS MEAN THE MOST?

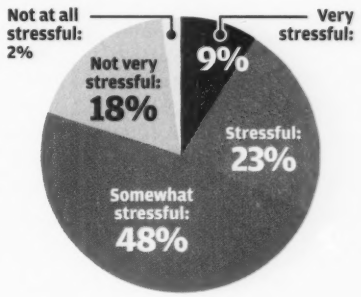
Health insurance	71%
Paid vacation	70%
Profit-sharing/employee stock ownership program/401(k)/403(b) plan	55%
Bonuses	50%

» RATE YOUR BENEFITS

Percentage of respondents who were very satisfied or satisfied with the following:

Paid vacation	89%
Flexible hours	82%
Profit-sharing or employee stock ownership plans	80%
Work/life balance	80%
Base salary	77%

» RATE YOUR WORKPLACE STRESS LEVEL



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Raytheon

Customer Success Is Our Mission

51 DTE Energy

IT workers at this Detroit-based natural gas and electric utility have a slew of perks, including internal and external training opportunities, free covered parking and an on-site health club. DTE's office features best-in-class, ergonomically designed workspaces, and employees can take advantage of health-oriented office furniture options, such as treadmill workstations and stand-up desks.

53 Ascension Health

Continuous learning is the hallmark of this nonprofit health system in St. Louis. Employees are offered anytime, anywhere training through e-learning courseware, some of which allows employees to share knowledge and work together in real time. Two instructor-led programs help employees understand the organizational structure of the IT group and enable them to practice using the resources that will help them grow and develop in the organization.

54 Medtronic

No. 8 for benefits

At this Minneapolis-based medical device company, developing IT talent is serious business. IT leaders have ongoing discussions with workers, aligning individual development plans with the quarterly performance review process. Medtronic provides a full range of health and wellness benefits, including on-site day care, health clubs, nutritionists, fitness programs and walking/running paths.

55 DHL Express

At this Plantation, Fla.-based employer, the U.S. arm of express delivery giant DHL, IT employees and their supervisors set annual development plans. To drive innovation and keep employees abreast of new technologies, DHL reimburses IT employees up to $5,000 per year for technology certifications. In addition, IT staffers receive two weeks' paid training based on defined career expectations.

56 Rackspace US

This San Antonio-based managed hosting services company provides a raft of technical training to its IT staffers. The firm offers the full Red Hat certification program at no cost to employees, as well as the Cisco Certified Internetwork Expert and the Microsoft Certified IT Professional, Enterprise Administrator, curriculums. Every employee may take off three workdays per year to give back to the community.

57 Secure-24

This Southfield, Mich., data security company works hard to foster a spirit of teamwork and make sure employees are recognized for their work. The company hosts holiday parties and picnics, provides tickets to professional sporting events, fields Secure-24 family sports teams, and hosts happy hours and catered lunches. The company's new headquarters facility offers amenities such as free Starbucks coffee, treadmill workstations, game rooms and free gym access. There are regular awards to recognize the outstanding performances of sales and service staffers.

52 PPG Industries

Staffers stick around for the varied projects and career opportunities. BY MARY K. PRATT

LARRY O'REILLY / PPG INDUSTRIES INC.

» IT staffers Justina Parker and Kazie Reuschel.

PPG Industries made a strong impression on Kazie Reuschel when she worked there as a college intern in 2011. So strong, in fact, that she chose to forgo opportunities at a Silicon Valley tech giant to stay with the Pittsburgh-based manufacturer as a full-time employee in 2012.

"I [found] a place where I could get technology and innovation experience but where I could still work on teams and voice my opinions," says Reuschel, a programmer/analyst who works on mobile apps, Internet apps and PPG's website. Indeed, the company prides itself on its focus on innovation, career opportunities and employee development, an area in which it ranks No. 2 among *Computerworld*'s 100 Best Places to Work in IT.

"There's plenty of room for growth, and there's always a challenge – it's not the same work day in and day out," adds Justina Parker, an analyst who has moved up through several positions during her 12-year tenure. She has traveled around the world for work, returning to Pittsburgh last fall after spending five years in Europe.

Werner Baer, PPG's vice president of IT, says his department currently has more projects and funding than ever before, which means his workers have plenty of challenges. He's confident that his staffers can handily meet those challenges with the support of strong teams built through collaboration and training. ◆

COMPUTERWORLD
100
BEST PLACES
TO WORK IN IT 2013

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58 Raytheon

This Waltham, Mass.-based defense contractor offers flexible work options to help employees balance their work and home lives. IT staffers keep engaged through community projects, STEM activities and a vibrant internal social network, and they can increase their skills through online classes, instructor-led programs and tuition reimbursement for graduate studies.

59 Intuit

No. 6 for benefits

IT employees at this Mountain View, Calif.-based maker of TurboTax and other financial software products can spend 10% of their time on projects of their own choosing. They can also participate in a leadership development program called Fast Path for IT employees who want to learn critical skills and build networks that will help them accelerate their careers.

60 Grant Thornton

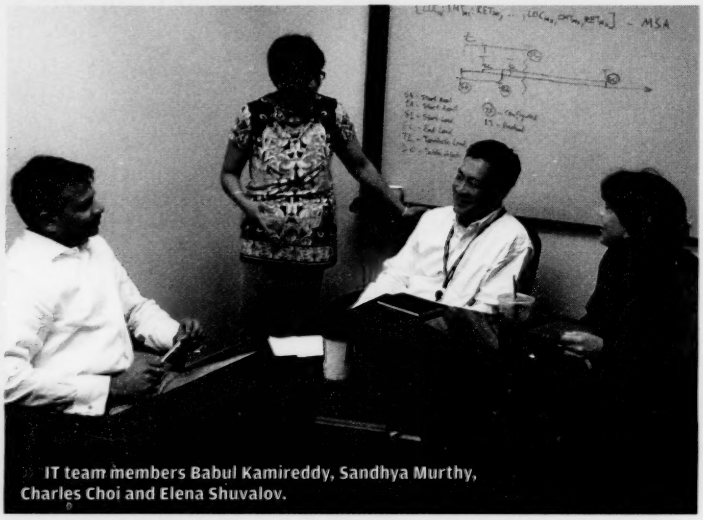
Managers at this Chicago-based accounting firm encourage workers to take advantage of nontraditional career opportunities that fit their skill sets. Because Grant Thornton is international, there are built-in opportunities for IT workers to expand their horizons. A group of U.S. IT staffers recently traveled to India to meet their counterparts, and now the two teams are able to work together much more effectively.

61 Sherwin-Williams

This Cleveland-based paint manufacturer continues to expand internationally. Currently the company has locations in 116 countries on six continents, giving employees an opportunity to travel the world as part of their jobs. IT employees can also pursue training to master soft skills such as coaching, communication and project management.

62 Financial Industry Regulatory Authority

Employee success is recognized with team celebrations and financial rewards. BY MARY K. PRATT



IT team members Babul Kamireddy, Sandhya Murthy, Charles Choi and Elena Shuvalov.

FINRA

FINRA's IT employees know they'll be recognized for a job well done, says Matt Cardillo, director of application development at the Rockville, Md.-based enforcement arm of the U.S. Securities and Exchange Commission. "Success is taken seriously and it's well-rewarded," he says.

Cardillo says IT workers have visibility into the department's projects, so people are always talking about them. When a project is completed, staffers congratulate one another as they pass in the hall. Teams also celebrate by getting together for activities like paintball, zip-lining and bowling.

Nanci Schimizzi, vice president of technology administration, says celebrating success is important throughout the organization. Milestones are marked with events such as cookouts, and FINRA ties its cash compensation to employees' performance, attainment of goals and application of core competencies.

In fact, when it comes to compensation, FINRA "is bar none, hands-down one of the best places I've seen," says Cardillo, who has worked at the organization for five years.

But compensation is just one of the positives, Cardillo stresses. He cites the IT department's increased focus on innovation, with new ideas encouraged and supported by higher-ups, and its support for collaboration, enabled by new applications and redesigned workspaces. "What keeps me here really comes down to working with the right people," he adds. "It's very engaging." ◆

63 Northwestern Mutual

This Milwaukee-based life insurance company encourages its IT employees to create and manage their own career paths through formal job rotation programs, job shadowing arrangements and collaborative activities with colleagues in business units. The company's no-cost lunch program gives employees an opportunity to make connections with co-workers and share business knowledge.

64 BNSF Railway

At this Fort Worth, Texas-based freight transportation company, employees have opportunities to broaden and deepen their skills by taking on challenging assignments, participating in mentoring programs and pursuing training – in some cases with the help of a tuition reimbursement plan. Recruiting efforts and management trainee programs help ensure that the best and brightest are selected to design and support the company's diverse and complex technology infrastructure.

20 YEARS OF BEST PLACES

*This year marks the **20th anniversary** of Computerworld's Best Places to Work in IT list. Here are a few highlights from the archives.*

SOURCE: *COMPUTERWORLD*'S BEST PLACES TO WORK IN IT SURVEY, 1994-2013. NOT ALL ORGANIZATIONS CHOOSE TO PARTICIPATE EVERY YEAR.

» STAYING POWER

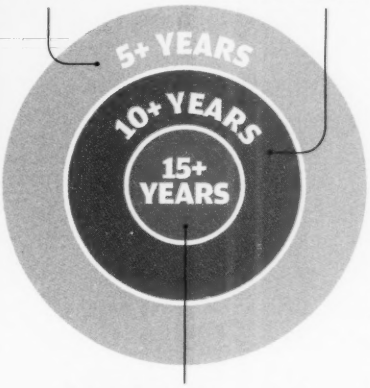
Which organization had the **longest run** *on the Best Places list?*

Comerica, which appeared for **18 consecutive years,** from 1995 to 2012.

» REPEAT APPEARANCES

140 organizations have appeared on the Best Places list five or more years.

35 organizations have appeared on the list 10 or more years.



Six organizations have appeared on the list 15 or more years.

NOTE: APPEARANCE FIGURES DO NOT TAKE INTO ACCOUNT MERGERS, ACQUISITIONS OR MAJOR COMPANY NAME-CHANGES.

» OVERACHIEVERS

These organizations have earned the **No. 1** spot **three times** or more:

Quicken Loans: No. 1 in 2005, 2006, 2007, 2013

Home Depot: No. 1 in 1995, 2000, 2001

USAA: No. 1 in 2010, 2011, 2012

» GREAT PERFORMERS

19 organizations have placed in the **top five** *overall* **at least twice**. *Of those, three have placed in the top five a total of* **five times** *or more:*

Quicken Loans: six times

University of Miami: six times

General Mills: five times

NOTE: RANKING FIGURES EXCLUDE 1994, WHEN THE WINNERS WERE NOT RANKED, AND 1998, WHEN THE RANKING SYSTEM WAS DIFFERENT FROM THE ONE USED IN OTHER YEARS.

See "Search the Best Places Archives" at computerworld.com/2013bestplaces for listings from the past 20 years.

Miami Children's Hospital has again been named to *Computerworld*'s "100 Best Places to Work in IT" for 2013. That's because we recognize innovation and creativity. We nourish new ideas and help them grow. Unlocking the potential of the human spirit is what keeps us on the forefront of research and technology, in the hearts of our patients, their families and our community. It also motivates us to be better for one another.

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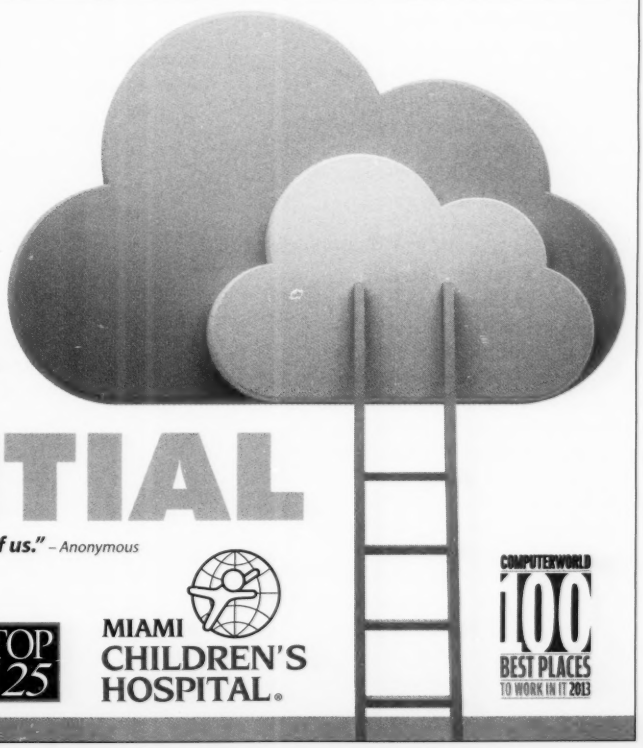
We are Miami Children's Hospital.

If you have an insatiable thirst for learning and want to do meaningful work, this is where you should be.



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TOP 125

MIAMI CHILDREN'S HOSPITAL.

COMPUTERWORLD 100 BEST PLACES TO WORK IN IT 2013

MCH-HC201306_3163

65 Sacramento Municipal Utility District

No. 3 for benefits

IT employees at this electric utility in California's Central Valley are encouraged to embrace a collaborative team-oriented outlook and to identify unique business needs and develop tools to meet those needs. SMUD strives to keep workers healthy by offering ergonomic assessments, fitness programs, wellness seminars and an on-site gym.

66 OCLC Online Computer Library Center

The IT group at this Dublin, Ohio-based nonprofit computer library service and research organization has three retirement programs to choose from, including a matching thrift plan, to which staffers can contribute up to 25% of their monthly compensation, and a supplemental 403(b) plan. After two years of service, employees are enrolled in the OCLC retirement plan. Every month, the organization contributes 7.15% of the employee's base salary to the plan.

67 Carolinas HealthCare System

Fostering teamwork is a key goal at this Charlotte, N.C.-based healthcare provider. The company also participates annually in a national employee engagement survey that includes many other similar healthcare organizations. In 2012, CHS's performance rating was in the 99th percentile, and results for the IT team exceeded those of the company.

68 Chesapeake Energy

Employees at this oil and gas exploration and production company in Oklahoma City are offered a host of benefits to make work/life balance easier. Examples include a 72,000-square-foot fitness facility, cash incentives for healthy lifestyle choices, and a child care center that has 63,000 square feet of state-of-the-art play and learning space.

69 Genesis HealthCare System

This Zanesville, Ohio-based skilled nursing care provider is funding the largest strategic project in its history: the implementation of an electronic medical record system. The Genesis IT team's accomplishments include the completion of projects that delivered on the company's vision of "one patient one record."

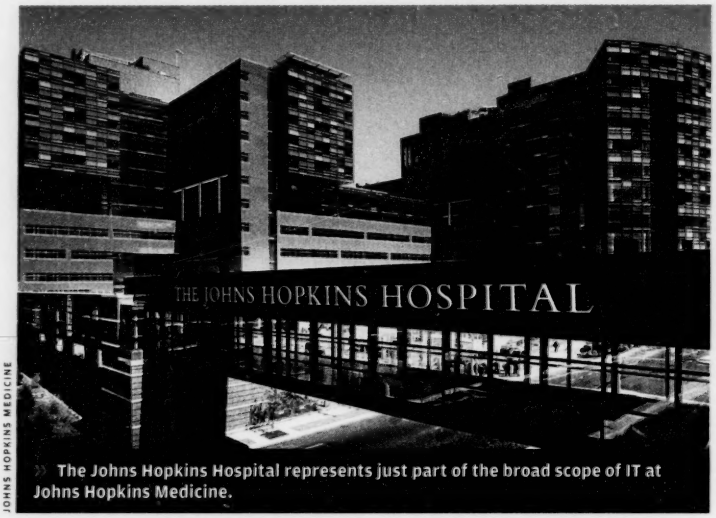
71 Campbell Soup

No. 7 for benefits

New programs are igniting IT cultural transformation and business growth at this Camden, N.J.-based maker of soups and other food products. Campbell's quarterly CIO Ingenuity Award recognizes employees for driving business outcomes by experimenting with digital technology. The IT Innovation Jam challenges staffers to display creative ideas that fuel growth; six new initiatives came out of a recent Jam.

Johns Hopkins Medicine

Opportunities to help patients and learn new technologies have IT pros hooked. BY JOHANNA AMBROSIO



JOHNS HOPKINS MEDICINE

The Johns Hopkins Hospital represents just part of the broad scope of IT at Johns Hopkins Medicine.

Johns Hopkins Medicine, as John Hopkins University's medical school and healthcare system are collectively known, offers IT pros a chance to work on exciting projects with new technologies. That, along with the knowledge that their work can make a huge difference in the lives of patients, adds up to a great experience for technologists of all stripes.

"I've never met a group of people who take more pride in the services they provide," says Liz Pessagno, technical project administrator, who is helping roll out a new electronic patient record system throughout the Baltimore-based healthcare system. "All hands go on deck if there's a problem somewhere, and we really help each other out."

Dawn Parker Hayes, a senior software engineer, is also a huge fan of the workplace. "I've been able to start at the bottom and learn new things," says the 20-year Johns Hopkins veteran, who's now handling identity management for both the university and the hospital.

One reason there are so many opportunities is that the organization works with few outside contractors – only 25 last year – and no outsourcers, with no plans to change that approach this year. That means "you don't need to leave to find new things to do," says Parker Hayes.

Other perks aren't too shabby, either, ranging from tuition reimbursement to flexible hours, work-at-home opportunities and a great healthcare package. All told, Pessagno says, "I wouldn't work anywhere else." ◆

EMPLOYERS BY THE NUMBERS

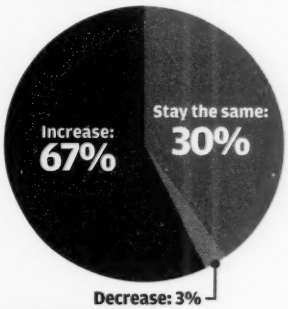
SOURCE: SURVEYS OF THE 100 BEST PLACES TO WORK IN IT 2013

» THE TYPICAL BEST PLACE

Revenue	$14.3B
IT budget	$325.6M
Total number of U.S. employees	21,096
Total number of U.S. IT employees	928
Average IT workweek	42 hours

» HIRING FORECAST

Percentages of organizations that expect the size of their U.S.-based IT staffs to do the following in 2013:



Average expected increase: 10.5%

Average expected decrease: 7.0%

» STAFFING

Average IT staff turnover rate, latest fiscal year	8.2%
Average percentage of IT staff promoted, latest fiscal year	12.1%

» COMMUNICATION

Percentage of organizations that do the following:

Offer IT staffers formal mentoring programs	70%
Survey IT staffers about job satisfaction once a year	59%
Survey IT staffers about job satisfaction more than once a year	21%

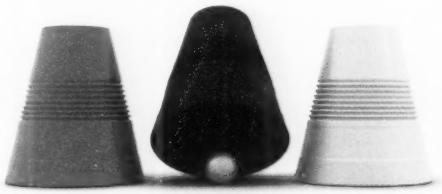
» TRAINING

Average number of training days for each IT employee in latest fiscal year	6
Average cost per IT employee for all training in latest fiscal year	$1,815
Percentage of organizations that said their training budgets per IT employee will increase in 2013	39%

» M&A ACTIVITY

Percentage of Best Places that have merged with or acquired organizations, or have divested business units, since Jan. 1, 2012	44%
Percentage of IT employees at all organizations affected by such activity (laid off, transferred, etc.)	1%

There are 'rights'
There are 'wrongs'
and then there is 'what you think'



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- Special Category Winner, Ranked No.3 in Best Companies in Career Growth category in Great Place to Work study, 2012.
- Computerworld Best Places to Work for 2013.

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72 FedEx

The IT professionals at Memphis-based FedEx support four major operating units and operations worldwide. The shipping company offers them an array of professional development options, including virtual training workshops that cover technical, process-oriented and career-related topics, and trade-show-style events that offer fun and interactive learning.

73 CME Group

This Chicago-based financial services firm, which owns the Chicago Mercantile Exchange and the Chicago Board of Trade, provides annual stock grants to all employees at the director level and above. For all other employees, CME has a pay-for-performance plan under which individuals are eligible to receive annual discretionary equity awards. In 2012, 48% of eligible IT employees below the director level received these awards.

74 SimpliVity

No. 3 for retention

This Westborough, Mass.-based technology provider puts the health and wellness of team members front and center, providing free healthy lunches daily and covering 100% of its employees' medical deductibles. To keep morale high, teams occasionally take a day off and head out on excursions that might include activities like bowling or go-kart racing.

76 International Paper

The IT group at this Memphis-based paper manufacturer consistently ranks in the top quartile in Gallup's Q12 survey, which measures employee engagement. International Paper and its employees also believe in giving back, supporting organizations such as United Way, the National Multiple Sclerosis Society and JDRF, a children's diabetes research organization.

77 Paychex

At this payroll accounting firm in Rochester, N.Y., employee wellness is a prime focus. A robust benefits package and health-management programs help workers take care of themselves and their families. IT employees give back to the community, donating food, gifts and refurbished PCs during the holidays and mentoring inner-city ninth-graders to help them make the most of their educations.

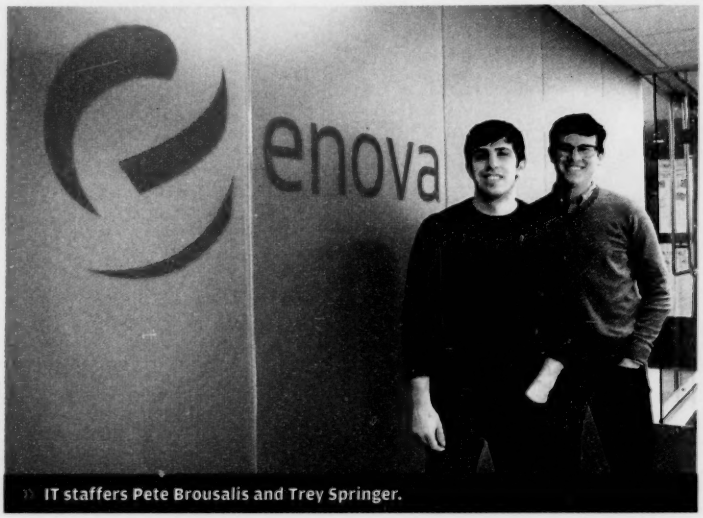
78 WellPoint

No. 10 for diversity

IT staffers at this Indianapolis-based health benefits provider reap the rewards of a system that identifies potential future leaders and supports them with executive coaching, career counseling, mentoring and development opportunities. WellPoint offers employees a range of health and wellness services that include a wellness credit program, on-site fitness centers, healthy selections in the cafeteria and support for nursing mothers.

75 Enova International

IT staffers set their own hours and work with bleeding-edge technology. BY ROBERT L. MITCHELL



ENOVA INTERNATIONAL

» IT staffers Pete Brousalis and Trey Springer.

For twentysomething senior software engineers Pete Brousalis and Trey Springer, working in IT at Enova International is as much a lifestyle choice as a career decision. The hours are extremely flexible, says Brousalis. "I can stroll in at 10 o'clock and leave whenever I need to." And the fact that there's plenty to do near the financial services firm's Chicago headquarters is a huge draw, he adds.

So is the newly designed and lavishly appointed 18,000-square-foot open office space that spans the entire ninth floor of a downtown building. Springer describes it as a marketplace, or a "tech epicenter," with people coalescing around different projects. But employees can also work from home, in the cafeteria or in quiet rooms. "Every possible way you want to work is available to us," he says.

Personal spaces come equipped with "the latest, best hardware," according to Brousalis, including large monitors and high-end ergonomic chairs. "We're all spoiled," he says. "And in terms of software they're always encouraging us to use the most bleeding-edge tools we can get our hands on."

Enova offers both monetary rewards and recognition for successful completion of projects. And with a rapidly growing staff, there's plenty of room to advance. Springer, who has an interest in management, has two mentors, including CIO Fred Lee, with whom he meets weekly.

Lee makes the rounds every week to ask how each project team is doing. "It's those little things that make our lives easier," says Springer. ◆

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79 FireHost

This Dallas-area cloud hosting company has a "work hard, play hard" team culture that is shared throughout the organization. Teams often conclude challenging projects or celebrate positive quarterly financial reports with an outing – a go-karting excursion or a night of dining and fun, for example. Employees also enjoy perks such as daily catered lunches and monthly massages.

80 Dow Chemical

This Midland, Mich., producer of plastics, chemicals, hydrocarbons and agrochemicals aims to give its employees opportunity and flexibility. Workers are offered a wide variety of career options, and they can choose the working arrangements that best meet their needs. Dow's flat organizational structure encourages collaboration among employees and leaders, and IT projects and investments are closely tied to corporate goals.

81 Avanade

This Seattle-based IT consulting services provider allows its U.S. employees to spend up to $2,000 per year on items that help them achieve work/life balance, and those items often include the latest high-tech gadgets. The company also reimburses IT staffers for the cost of technical certifications. U.S. IT workers averaged more than 115 hours of training in the most recent fiscal year.

82 DeVry

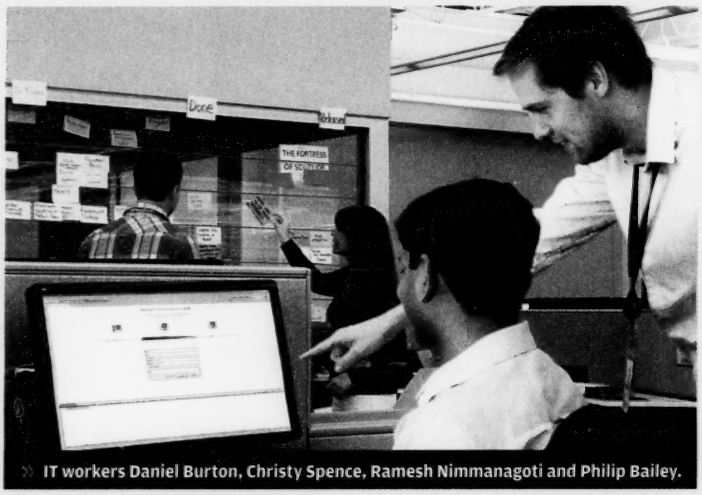
This Downers Grove, Ill.-based for-profit educational company offers 100% tuition reimbursement to full-time employees who pursue undergraduate degrees at DeVry University or master's degrees at Keller Graduate School of Management. The company's offices feature an open and collaborative work environment with team pods, open desks and rolling or tabletop whiteboards. Other amenities include an in-house gym with locker rooms and showers.

83 Edward Jones

This St. Louis-based financial services firm, one of the largest operating partnerships in America, is owned by nearly 15,000 limited partners and about 350 general partners, also called principals. About 40% of the employees, from administrative assistants to top organizational leaders, own a piece of the firm. A majority of IT workers received new or increased partnerships in the most recent offering. The limited partnership has a long track record of delivering annual returns that average between 15% and 24%; in 2012, the return was 18.48%.

84 Heartland Payment Systems

An open and collaborative environment lets IT staffers set a technical direction for projects. BY STACY COLLETT



JOSH BARTLEY / HEARTLAND PAYMENT SYSTEMS

IT workers Daniel Burton, Christy Spence, Ramesh Nimmanagoti and Philip Bailey.

Team players love working for Princeton, N.J.-based Heartland Payment Systems, the nation's sixth largest payments processor. Heartland invests heavily in its technology, enabling IT teams to work hands-on with the latest tools. Its 400-plus IT employees, most in their 30s and early 40s, are often found working on cloud technologies, application and Web services security, and iPad-enabled CRM projects at one of the company's six locations.

Executives place great emphasis on developing autonomous teams. Leadership "lets teams grow and take on ownership of the work they're doing," says Alex Shull, a solutions architect, and IT pros can quickly become decision-makers on their teams. "It's almost the feel of a startup," he adds.

Shull, who works at Heartland's Jeffersonville, Ind., service center, says the complex is "very open and collaborative," and he describes the IT department vibe as "fun and relaxed."

Betsy Alegnani, a product owner in the Plano, Texas, office, works from home one day a week and travels monthly to Portland, Ore., to work with Heartland's marketing solutions group. "In the IT department, we get the training and the tool sets we need," she says.

"From senior managers on down, there's open communication," Alegnani says. "We've got a great management group who sets goals and communicates them. If we have questions, we can ask; when we have suggestions, they listen." ◆

85 Kellogg

This Battle Creek, Mich.-based maker of cereals, snacks, cookies and convenience foods has a health-focused corporate culture. The voluntary, incentive-based wellness program offers health risk assessments, biometric health screenings, counseling, weight management and fitness initiatives, and on-site fitness centers.

EMPLOYERS BY THE NUMBERS

SOURCE: SURVEYS OF THE 100 BEST PLACES TO WORK IN IT 2013

» WOMEN IN IT*

31% of IT staffers (nonmanagers) are women.

30% of IT managers are women.

» MINORITIES IN IT*

32% of IT staffers (nonmanagers) are minorities.

21% of IT managers are minorities.

**Averages of responses of all organizations.*

» COMPENSATION

95% of organizations have budgeted for salary increases for IT employees in 2013.

86% have budgeted for bonuses for IT employees in 2013.

98% contribute to employees' 401(k) or 403(b) plans.

» TOP 5 COMPENSATION BENEFITS

Percentage of organizations that offer the following:

401(k)/403(b) plan	100%
Individual employee performance bonuses	90%
Overtime pay	86%
Employee referral bonus program	74%
Profit-sharing or employee stock ownership program	50%

» VACATION

16 days of paid vacation are provided after one year of service, on average.

23 days of paid vacation are provided after 10 years of service, on average.

» WHAT THEY DO

Percentage of organizations in the following industries:

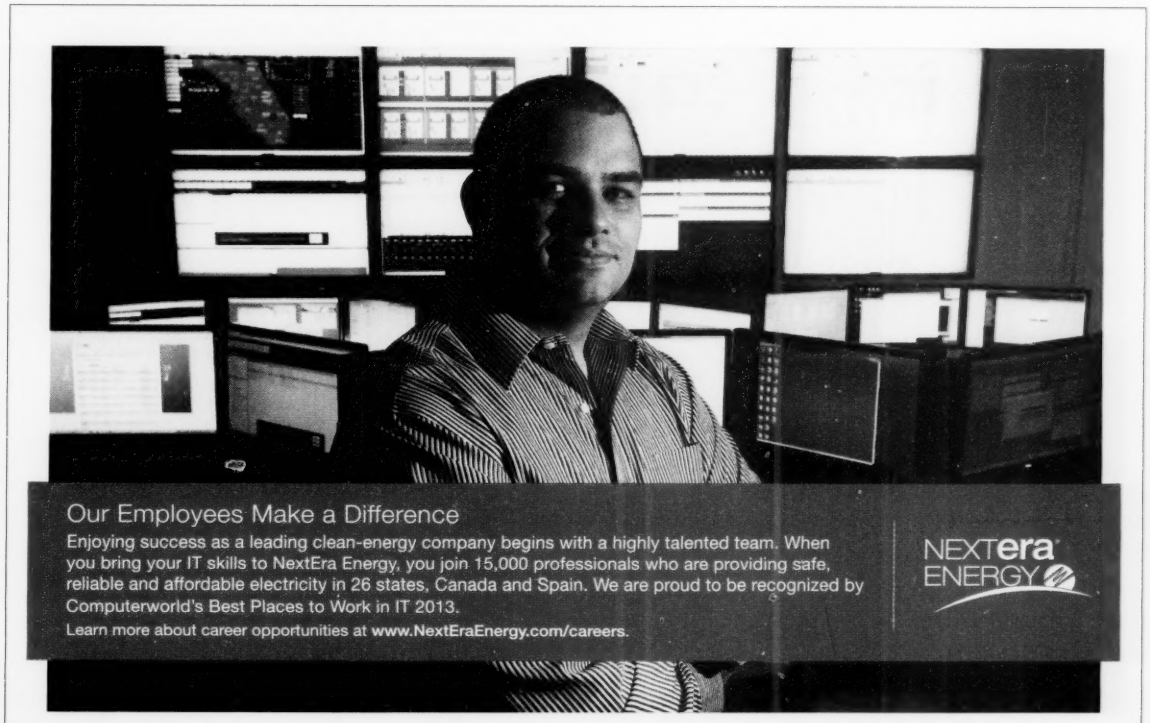
Health/medical services	18%	Education	5%
IT consulting	16%	Manufacturing	5%
Finance	10%	Food industry	4%
Energy/utilities	7%	Telecommunications	3%
Insurance	7%		

[*All other industries:* **25%**]

» WHERE THEY ARE

Percentage of organizations in the following regions:

North Central	35%	Pacific	10%
South Atlantic	24%	Mountain	3%
Mid-Atlantic	13%	New England	3%
South Central	12%		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86 CDW

Employees at this technology service provider in Vernon Hills, Ill., can purchase more than 100,000 technology products at cost. The company's peer recognition program, which includes monetary rewards, encourages employees to celebrate one another's achievements.

87 Aflac

This Columbus, Ga.-based insurance company sponsors an annual employee appreciation week that includes prizes and awards. Aflac also offers more than 19 online courses at no charge to employees, and it reimburses people for the cost of exams.

88 Noah Consulting

This Houston-based consultancy for the oil and gas, energy trading, power and natural resources industries makes sure its employees feel appreciated, holding two large social events per year and an off-site social outing each month. A technology-agnostic approach lets IT staffers use clients' tools or help them choose new ones.

89 Health Care Service Corp.

The IT department at this Chicago-based health insurer hosts the 5-Star awards program, which recognizes IT's highest-achieving individuals, teams and managers at a year-end celebration. A total of $120,000 was given out to winners in 2012.

90 Ping Identity

No. 7 for retention

This Denver-based maker of identity and access-management software arms its workers with state-of-the-art equipment. The company allows employees to work from home and to take paid time off to volunteer in the community.

92 SEI

This Oaks, Pa., provider of outsourced investment and fund processing for financial institutions has a flat organizational structure. An open office environment with easily movable workspaces gives employees ready access to senior leaders and fosters collaboration and transparency.

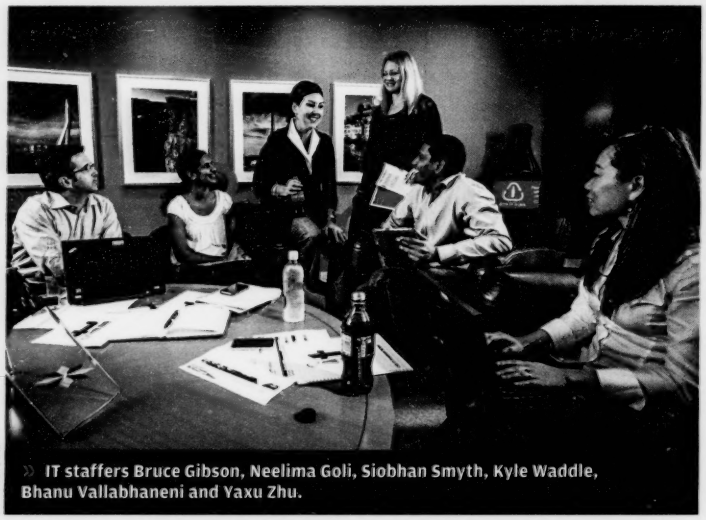
93 Nova Southeastern University

No. 2 for diversity

IT employees at this Fort Lauderdale, Fla.-based private, not-for-profit institution of higher education receive 10 days of training annually and, along with their spouses and dependents, are eligible for tuition waivers for undergraduate, master's and doctoral coursework. Additionally, a formal mentoring program has been developed for IT employees through the university's Hudson Institute.

NO. 91 Coca-Cola Enterprises

The IT culture prizes innovation, agility and a constant exchange of ideas. BY MARY K. PRATT



JDTYRE.COM

» IT staffers Bruce Gibson, Neelima Goli, Siobhan Smyth, Kyle Waddle, Bhanu Vallabhaneni and Yaxu Zhu.

Last year, Coca-Cola Enterprises gave its IT staffers a chance to check out some emerging technologies when it invited speakers from about a dozen high-tech startups to come in and pitch their up-and-coming products. CCE also hosts hack-a-thons, in which teams of its employees vie for cash prizes as they compete to see who can come up with the most innovative ideas.

Siobhan Smyth, vice president of IT leadership, says events like those embody the IT department's culture, which emphasizes innovation and CCE's three key values of accountability, customer focus and team drive. The Atlanta-based company, one of the world's largest Coca-Cola bottlers, presents annual awards to IT teams that demonstrate excellence in each of those areas, says Smyth. But CCE also works to create a day-to-day atmosphere that's agile, innovative and fun.

"It's a flexible and fast-paced environment that keeps us constantly engaged and exchanging ideas," she says.

Lesley Morgan, senior manager of IT development, says that culture drew her to CCE. She says she enjoys working with new technologies and likes the fact that the company's global presence gives her opportunities to travel to Europe to work with IT and business colleagues based there.

"The enthusiasm, the excitement and innovation – it makes it a really great and positive work environment," she says. ◆

RANKINGS BY ORGANIZATION SIZE

SOURCE: *COMPUTERWORLD*'S 2013 BEST PLACES TO WORK IN IT SURVEY

Based on the total number of U.S. employees:

LARGE	10,000 or more employees
MIDSIZE	2,500 to 9,999 employees
SMALL	Fewer than 2,500 employees

LARGE

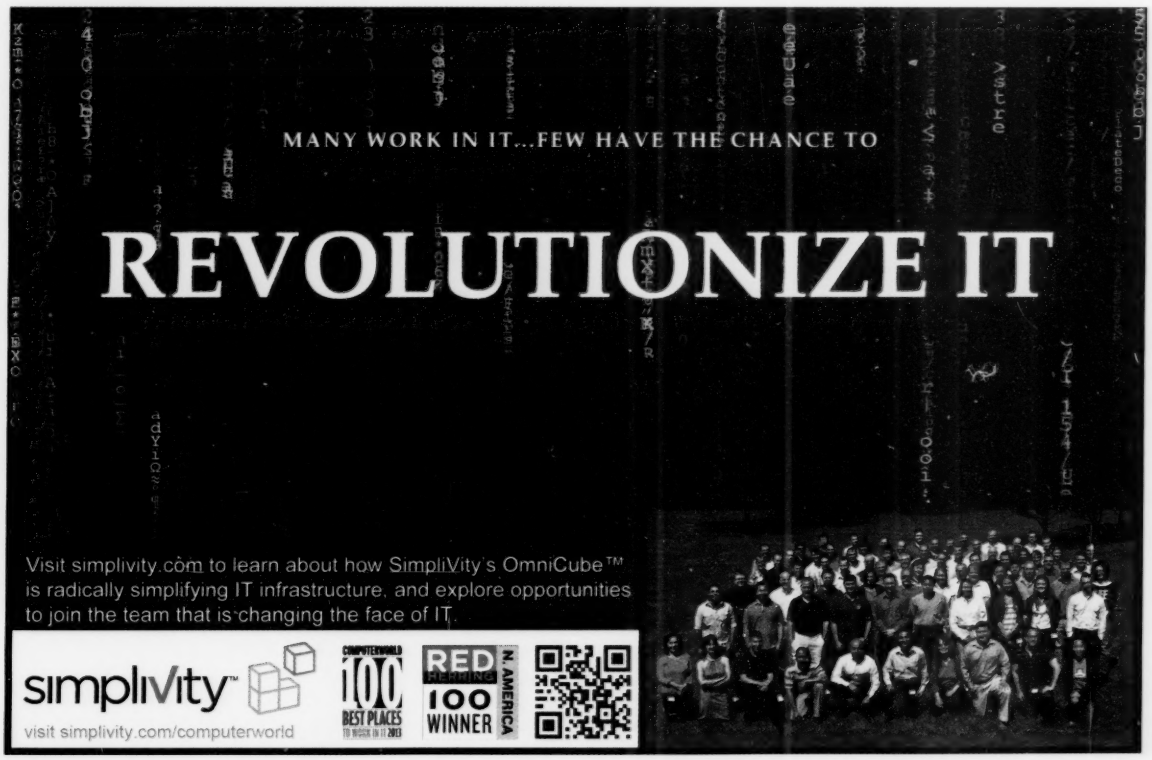
1. **USAA** (Overall rank: 2)
2. Sharp HealthCare (6)
3. Qualcomm (8)
4. Genentech (9)
5. General Mills (12)
6. Erickson Living (13)
7. Verizon Wireless (15)
8. CSX (19)
9. Lehigh Valley Health Network (20)
10. OhioHealth (21)

MIDSIZE

1. **Quicken Loans** (Overall rank: 1)
2. Transocean (7)
3. Pricewaterhouse-Coopers (10)
4. Jet Propulsion Laboratory (16)
5. Applied Materials (17)
6. SAS Institute (24)
7. Cancer Treatment Centers of America (30)
8. University of Notre Dame (35)
9. Jack Henry & Associates (39)
10. Altria Client Services (41)

SMALL

1. **CareerBuilder** (Overall rank: 3)
2. Commonwealth Financial Network (4)
3. World Wide Technology (5)
4. National Rural Electric Cooperative Association (11)
5. National Information Solutions Cooperative (14)
6. Securian Financial Group (18)
7. American Fidelity Assurance (26)
8. CHG Healthcare Services (29)
9. LINN Energy (33)
10. Reed Technology & Information Services (37)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100 BEST PLACES TO WORK IN IT 2013
RED HERRING
N. AMERICA
100 WINNER

94 Southern Co.

The IT department at this Atlanta-based energy firm strives to help employees master the technical skills needed today and in the future. Health and wellness are priorities too: Participants in the company's wellness program can take advantage of reduced health insurance premiums, company-paid lab services and more.

95 Astellas Pharma US

This Northbrook, Ill., pharmaceutical company offers an array of benefits, including an 11.5% match on employee 401(k) contributions, five days' paid time off for charitable volunteer activities, a health insurance plan that's 87.5% subsidized, and medical coverage for retired employees and eligible spouses.

97 Humana

Employees at this health insurance provider in Louisville, Ky., enjoy a raft of benefits, including lifestyle-assistance services and a free, rewards-based wellness program that encourages people to, among other things, manage their weight, stress and cholesterol. The company also offers an array of employee reward and recognition programs.

98 Automatic Data Processing

A business-casual dress code and newly configured office environment foster an atmosphere that emphasizes comfort and collaboration at this payroll and tax-filing processing service in Roseland, N.J. One perk for IT employees is that they have the opportunity to work on the company's latest technology incubation efforts through rotating assignments in ADP Labs. One such effort yielded the widely recognized ADP National Employment Report.

99 NIIT Technologies

No. 9 for career development

This Atlanta-based software and IT services provider invests heavily in training and emphasizes employee development. The company's Web-enabled feedback system has 95% participation among employees. Retention strategies include role-based, market-aligned compensation, allowances for special skills and opportunities to work overseas.

96 American University

IT staffers relish fresh challenges, evolving roles and opportunities for growth. BY TRACY MAYOR

COURTESY OF AMERICAN UNIVERSITY BY JEFF WATTS

» IT team members Laurie Ambach, Kamalika Sandell, Terry Fernandez, CIO Dave Swartz, Cathy Hubbs and Sharjil Hasan.

Jacqueline Palumbo needs to draw a deep breath before ticking off all the reasons for her long tenure in American University's Office of Information Technology (OIT), where she has worked in one capacity or another for the past 15 years.

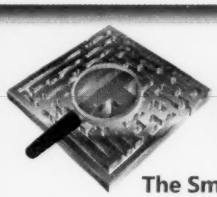
First, there are the benefits of working for a university: a campus that's close to downtown Washington but is still secluded and leafy; a vibrant, stimulating intellectual environment; generous vacation and leave policies; on-site child care and preschool; and full tuition remission for employees, spouses and their children. Palumbo earned a graduate certificate in organizational change from the university, and her husband received an MBA.

OIT's environment is challenging yet supportive, says Palumbo, who participates in OIT's mentoring program as both a mentor and a mentee. In 2011, she won a Campus Partner award, one of several awards that are part of a robust employee recognition program. "My position is always evolving. I'm never bored," says Palumbo, currently manager of training and performance improvement.

Her manager, Steven Munson, a director in enterprise systems, says that sentiment is just what OIT is looking for in its workforce, which numbers about 80 employees. "We have a tremendous amount of opportunity for people to step up to more of a leadership role, grow their skills in a different technology, or join a collaborative team," he says. "This is not a rigid organization where you're stuck in your role." ◆

100 Quintiles

In 2012, this biopharmaceutical services organization in Research Triangle Park, N.C., revised its IT growth and development program to support a reorganization into a product team structure. Key to this change was the establishment of "communities of practice" to preserve the deep levels of expertise the workforce had in many IT disciplines. In another innovative step, the 2012 leadership meeting was set up as a virtual event in which videoconferencing and telepresence technology was used to bring 70 IT leaders on three continents together for a three-day meeting.



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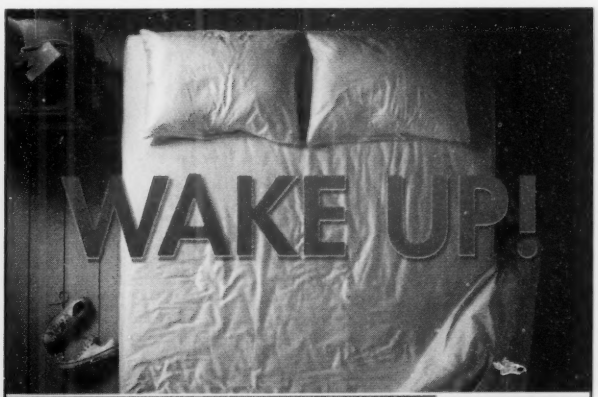

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HOW WE CHOSE THE BEST PLACES

FOR THE 20th year in a row, *Computerworld* conducted a survey to identify the 100 best places to work for IT professionals. We started accepting nominations in June 2012. Participants were asked to provide contact information for an individual at their company who had access to employment statistics, financial data, and information about benefits policies and programs for the IT department and the company as a whole.

In January 2013, a contact at each of 375 nominated companies received a 66-question survey asking about average salary and bonus increases, percentage of IT staffers promoted, IT staff turnover rates, training and development, and the percentage of women and minorities in IT staff and management positions. Information was also collected on retention efforts; programs for recognizing and rewarding outstanding performance; benefits such as flextime, elder care and child care; and policies for reimbursing employees for college tuition and the cost of pursuing technology certifications. Information from those surveys was used in compiling the 100 company profiles in this issue.

Upon completion of the survey, participants were emailed instructions for selecting a random sample of employees from their U.S.-based full- and part-time IT staffs. All participating companies were required to obtain feedback from their employees. The responses to the employee survey went directly to a third-party research company.

Topics covered in the employee survey included satisfaction with training and development programs, compensation, benefits and work/life balance. In addition, employees were asked to rate employee morale in their IT departments, the importance of various benefits, and the degree to which they agreed with a variety of statements on subjects ranging from career growth to management's treatment of employees.

From the final 100 companies selected, a total of 27,779 IT employees responded to the employee survey. The nomination survey, company survey and employee survey were all conducted via the Internet. The company and employee survey portion of the research ended in March 2013. To qualify to complete the company survey, participating organizations had to have a minimum of 40 IT employees. Companies based outside the U.S. had to have a minimum of 300 total employees at a U.S. headquarters and a minimum of 40 IT employees in the U.S., and at least 50% of their IT employees had to be based in the U.S.

Approximately half of the total scoring was based on employee responses, with the remaining half based on the survey of the company's benefits and other programs. You can read a complete description of our methodology at **computerworld.com/2013bestplaces.**

This year's survey process was managed by Sean Galvin of IDG Research and Mari Keefe, editorial project manager at *Computerworld*.

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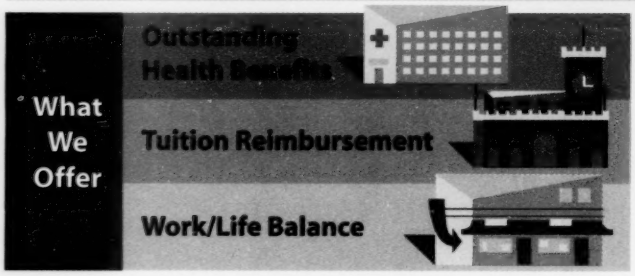

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Interested candidates send resume to: Google Inc., PO Box 26184 San Francisco, CA 94126 Attn: Keeshia Moultrie. Please reference job # below:
Software Engineer in Test (Mountain View, CA) **#1615.5138** Design, develop, modify, and/or test software needed for various Google projects. Exp incl: sw dvlpmnt; sw test & test automation; C++; Java or C#; data struct & algorithms; OOD; relational databases; distrib computing; sw test methodologies; & Linux or Windows.

Business Systems Integrator (Mountain View, CA) **#1615.5402** Design analytical solutions that answer complex business decisions. Exp incl: large syst sw dvlpmnt or client application dvlpmnt; Java; database design & SQL; & dvlpmnt methodologies & project life cycles.

Quality Assurance Engineer (Mountain View, CA) **#1615.5118**: Design, develop, modify, and/or test software needed for various Google projects. Exp incl: test web applications using scripting, test mgmnt tools, Selenium, and WATIR.

Staff Software Engineer (Mountain View, CA) **#1615.276** Design, develop, modify, and/or test software needed for various Google projects. Exp incl: stat analysis; credit card & mobile payments; technical leadership & business prod direction; dvlpmnt in distrib syst; global level fraud strategy; large scale sw dvlpmnt; & bldng fraud detection models.

Technical Solutions Consultant (Mountain View, CA) **#1615.1053** Integrate Google products with customer technologies. Exp incl: XML, HTML, Ruby &/or Python; Unix or Linux syst administration & shell script; TCP/IP, HTTP, HTTPS, SSL, & TLS; C, C++, Java, & Python; & SQL & Dremel.

SW Eng Positions (Mountain View, CA): Design, develop, modify, and/or test software needed for various Google projects. Exp. incl:
#1615.4123; C, C++ &/or Java; data struct, algorithms, & sw design; database design &/or SQL; TCP/IP &/or ntwrk program; design, implement, test, & maint of moderately complex subsyst; Unix & Linux; & AJAX.
#1615.2481 design & implement of large scale distrib sw syst; C, C++, Java, &/or Jscript; Linux &/or Unix; application security & authentication protocols; pltfrm hardening & testing; & large-scale production sw syst troubleshoot.
#1615.5041; Unix &/or Linux; Python, C, C++, Java, Perl, Shell &/or PHP; & technical troubleshoot & performance tuning.
#1615.757 algorithms; distrib syst design & optimize; oper syst concepts; & high-performance ntwrkng.
#1615.2432 C++; proj mgmnt & proj planning; & algorithms & data struct.
#1615.4021 C++; Java; GWT; large-scale distrib production syst; web dvlpmnt, incl JS, HTML, & CSS; srvc-oriented architect; sharded & replicated SQL databases & NoSQL syst; UI design & implement; authentication & authorization of internal & external srvcs; mgmnt of lifecycle of applications; design syst subject to or enforce audit requirements& syst administration.
#1615.3457 distrib syst; data mine; mach learn; social & info ntwrk analysis; computer & ntwrk security; info retrieval & web search; & C++.

Interested candidates send resume to: Google Inc., PO Box 26184 San Francisco, CA 94126 Attn: Keeshia Moultrie. Please reference job # below:
UI Designer Positions (Mountain View, CA) Define the user model and user interface for new and existing Google products and features. Exp incl:
#1615.5097: HTML5 & CSS3; Jscript; & interface & interaction design f/ websites & applications on desktop & mobile devices.
#1615.4754 Internet & social web experience in UI design; design & HCI; design across multiple device types & contexts; Adobe Illustrator & Photoshop; Axure, HTML, CSS, & Jscript; & user research methodologies & principles.
#1615.663 automotive Human-Machine Interaction design, research, & production; interaction design; physical & digital prototype to deliver proofs of concept; application of Automotive Human-Machine Interaction standards; & sw tools for design.

Geo Data Specialist (Mountain View, CA) **#1615.3652** Design, develop, modify, and/or test Google's Geographical Information Systems. Exp incl: Linux; Python w/ Open source GIS tools; Remote Sensing; eval complex data; utilization of satellite or imagery; write Python or Bash script tools to automate tasks; & Photogrammetry.

SW Eng Positions (Mountain View, CA): Design, develop, modify, and/or test software needed for various Google projects. Exp. incl:
#1615.1285 Linux kernel internals; C & C++; Java; multithread; performance, monitor, & test ethernet ntwrk; layer-2, layer-3, or layer-4 ntwrk protocols & technologies; & design RESTful API.
#1615.5796 sw dvlpmnt in large scale projects; data struct, algorithms, & sw design; OOP lang; & large scaled distrib syst design.
#1615.1950 design & implement large-scale distrib sw syst; Java, C, C++, or Jscript; Linux or Unix; application security; authenticate & authorize protocols; pltfrm hardening & testing; & troubleshoot large-scale production sw syst.
#1615.3600 design, implement, test, & maint of complex sw; sw program; algorithms; C++; SQL; multicore & multithread, concurrency, & synchronization; performance optimization; OOD & analysis; & Linux.
#1615.2079 C, C++, or Java; large syst sw design & dvlpmnt; data struct; algorithms; Python, Jscript, &/or AJAX; database design; & SQL.
#1615.3848; OOP; web frontend technology; SQL; multithread program & parallel program; shell script lang, incl Linux; data struct & algorithms; design patterns; & Test Driven Development.
#1615.1850 C & C++; Python; SQL; large scale system design; & mach learn.

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Network Engineer (Mountain View, CA) **#1615.656** Identify issues for Google's networks and determine appropriatesolutions. Exp incl: troubleshoot & support of routers & switches; OSI, TCP/IP, PPP, VRRP, HSRP, Frame Relay, & SNMP protocols; VLAN, STP, ARP, VTP, WLAN, ICMP, & ISDN; ntwrk routing protocol troubleshoot in BGP, OSPF, IS-IS, & MPLS; Unix &/or Linux syst administration; & shell script & C program.
User Experience Researcher (Mountain View, CA) **#1615.3385** Take responsibility for Google product from conception to launch. Exp incl: UX research methods & techniques; UX research in Tax, Billing, or Payments prod; & commercial or public sector research in HCI with specialization in payments & tax.
SW Eng Positions (Mountain View, CA): Design, develop, modify, and/or test software needed for various Google projects. Exp. incl:
#1615.5188 program lang; large syst sw design & dvlpmnt; data struct & algorithms; & database design.
#1615.2650 C++ & SQL; STL & Python; MapReduce dvlpmnt; design & deploy large scale distrib data process syst; mgmnt of metadata storage, security, & synchronization; parsers & compilers; databases; & Unix &/or Linux.
#1615.3820 design & implement highly scalable syst using Java; design & implement large scale web applications; HTML & Dynamic HTML; Agile dvlpmnt methodology; Java Unit test; dependency injection techniques, & write SQL queries for reporting.
#1615.4452 backend applications in heterogeneous pltfrms; load, security, web dvlpmnt, & API test; scalable syst; Java; HTML & CSS; & Jscript & SQL.
#1615.1562 parallel & sequential algorithms; algorithm complexity analysis; optimization problems; & dvlpmnt of scalable syst for high user traffic.
#1615.3959 large data process syst; C++; design patterns; data struct; algorithms; & sw design.
#1615.3402 C++ & Python on Linux; OOD; web technologies; parallel & distrib computing; design & dvlpmnt of recovery methods; databases & SQL; algorithms & data struct; & multithread & concurrent program.
#1615.3416 OOP; Unix; fault tolerant syst; large-scale syst design; cloud compute; virtualization; & parallel &/or distrib syst.
#1615.4232 data struct; adv algorithms; design patterns; OOP; C++; STL; & script lang

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Software Engineer in Test Positions (Mountain View, CA) Design, develop, modify, and/or test software needed for various Google projects. Exp incl:
#1615.718 C &/or C++; dvlpmnt & maint of large-scale, mission critical syst; dvlpmnt of test infrastruct to enhance quality of products; & algorithms.
#1615.2574; C++; Java; Jscript; Python; Linux; Windows; sw test, test automation, & mutation test; adv data struct & algorithms; OO design; & distrib computing.
SW Eng Positions (Mountain View, CA): Design, develop, modify, and/or test software needed for various Google projects. Exp. incl:
#1615.1036 Java, Python,& Shell; UNIX; JUnit; relational & non-relational databases; & GWT.
#1615.2199 data struct, algorithms, & sw design; dvlpmnt in srvr-side technologies; OOP; web application dvlpmnt, Jscript, HTML & CSS; & UI design.
#1615.3495 Java; Java EE; Perl; OODfunctional program; multi-thread program; message passing syst; database solutions & SQL; web protocols & srvcs; & Java Servlets.
#1615.5056 C,C++, or Java; Unix or Linux; data struct; algorithms; sw design; & TCP/IP or ntwrk program.
#1615.3885 C++ multithread & STL; Python; Java or Obj C; computer graphics on mobile dvces w/ OpenGL ES 2.0; Shader program; & Android dvlpmnt w/SDK and NDK.
#1615.4883 C++ &/or Java; Unix &/or Linux; ntwrkng & TCP/IP protocols; multithread program; & large scale syst sw design & dvlpmnt.
#1615.1642 Java, Python, & C++; funct program; multithread, graph algorithms, & dynamic program; & static prog analysis & verification; compilers & compiler optimizations; performance analysis; & distrib syst & large-scale parallel data process.

Interested candidates send resume to: Google Inc., PO Box 26184 San Francisco, CA 94126 Attn: Keeshia Moultrie. Please reference job # below:
Software Engineer Positions (Kirkland, WA) Design, develop, modify, and/or test software needed for various Google projects. Exp incl:
#1615.1686 C++; Jscript; OOP & design patterns; modern web browser implement; WebKit rendering engine; OSX graphics rendering pipeline; real-time audio process; & WebRTC internals & stream analysis.
#1615.5251 Java, C, C++, or Python; Linux & Windows; script lang, incl bash or csh; internet technologies, incl program for cloud srvcs; testing methodologies that address performance, reliability, security, & functionality; & virtual mach.
Software Engineer Position (Seattle, WA) **#1615.484**: Design, develop, modify, and/or test software needed for various Google projects. Exp incl: C or C++; multithread & Python; ntwrk security & authentication; vulnerability research & reverse eng'g; static analysis; & x86 & x64 assembly & vulnerability mitigations.

Technical Lead (Software Engineer) (Frankfort, KY): Assist Proj Mgr to manage/lead pension benefit IT SW design project. Req. Bachelor or equiv deg w/ C'sci, Electronic Eng, plus 5-yr exp in SW dev't occupations related to the job. Exp should include MS.Net, ASP.Net,WCF, SQL Server. Send resume+salary req to: HR, Sagitec Solutions, 422 County Rd D East, Little Canada, MN 55117.

Interested candidates send resume to: Google Inc., PO Box 26184 San Francisco, CA 94126 attn: Keeshia Moultrie. Please reference job # below:
Site Reliability Engineer (NY, NY) **#1615.5585** Design, develop, modify, and/or test software needed for various Google projects. Exp incl: production syst, incl design, deployment & troubleshoot; C++ or Java; Perl or Python; & Linux.
Solutions Consultant; (NY, NY) **#1615.4237** Function as the internal or client-facing Google product expert. Exp incl: Unix &/or Linux; application dvlpmnt, incl TCP/IP, HTTP, & XML; database schema design, perf tuning, & SQL; presentation of prototypes & prod demos to internal users & stakeholders; proj mgmnt of sw dvlpmnt proj; & Java, Python, Jscript, C, C++, or GO.
Software Engineer Positions (NY, NY) Design, develop, modify, and/or test software needed for various Google projects. Exp incl: **#1615.1096** distrib filesyst or distrib databases; large-scale data process; data analysis in R; design & implement complex syst in C++.
#1615.5011 UNIX &/or Linux; C &/or C++; multithread; STL; large-scale data index; parallel & distrib computing to process large data sets (on the order of terabytes); distrib file syst; cluster mgmnt syst,; configuration of real time monitor & alert for distrib syst; & test sw.
#1615.5657 C++; & Linux or Unix; prog in distrib environ & using remote procedure calls; & handle large dataset & distrib storage syst.

Job Opportunity: Senior Business Analyst Job Location: Suwanee, GA and any other unanticipated locations in the U.S. Duties: Get Project Budget (appropriations) for the Change Requests from the Business/Stakeholders and se cure using STAMP Tool and Managed in Planview Tool. Pre pare Statement Of Work and write the test cases and build a test plan. Perform Black Box, white box, unit and regression testing, and risk analysis. Travel required. Requirements: Master' s degree in Information Techn ology or Business Administration. Graduate level coursework must include coursework in Operations Management and Systems Anal ysis, Management of Information and Technology, and Business Strategy and Implementation. Mail Resume to: Mr. Ramesh Ve pure, Byteware, Inc., 1325 Sat ellite Blvd.,Suite1405,Suwanee, GA 30024.

Lead Software Architect - Job Location: Suwanee, GA and any other unanticipated locations in the U.S. Duties: Analyze, develop & specify quality of service requirements. Determine system architecture & techniques & design software & tools necessary to meet specified user requirements. Travel required. Requirements: Master's Degree in Computer Science, Information Technology or Business Administration and two years of prior work experience as a Software Engineer. Mail Resume to: Mr. Ramesh Vepure, Byteware, Inc., 1325 Satellite Blvd., Suite 1405, Suwanee, GA 30024.

Oracle Developer (Charlotte, NC): Provide tech support including issue resolution, bus process reqmts, data migrations, work flow agent dvlpt, maintenance, performance tuning, integration (OAQ), SQL optimization, PL/SQL in work-flow agent, change mgmt (impact Assessment), documentation, upgrades & regression testing. Reqmt: Bachelor's degree or equiv in IT, Comp Sci, Engg, Math, or rel field. Employer deems 3 yrs in undergrad degree + 1 yr of exp in the comp field to be equiv to Bachelor's degree. 2 yrs of exp in job offered or in a rel occupation of SW Engineer, Bus Intel Consultant, Lead Cognos/ Crystal Admin, or IT Syst Analyst. Exp must include dvlping, designing, implementing, & customizing apps using Oracle, PL/ SQL, EDI, data migration, & functional & tech support & maintenance for an ERP syst. We offer competitive salaries & benefits. Please email or fax resumes to Attn: Amanda Powell. Email: Amanda.powell@electrolux.com; fax: 706-228-6563.

Lead Systems Analyst
Lead Systems Analyst in White Plains, NY; Required: B.S. in Comp. Sci., Soft. Eng. or IT and a min. of 5 years of exp. as Lead System Analyst, BSA or Software Developer, incl. 1 yr of exp. with System Analysis (UML) and Object Oriented Analysis, Logistics Management Systems, programs in commodities trading and related concepts; 2 yrs of exp. with system integration technologies and best practices (TIBCO) and systems development using J2EE. A foreign equiv. of a B.S. in Comp. Sci., Soft. Eng. or IT is acceptable. Any suitable combination of education, training, or experience is acceptable. Duties: Review, develop, create, and modify applications software and specialized utility programs involving vessel execution details. Document requirements and formulate systems to parallel overall business strategies. Take the lead on programming and software development projects in commodities trading. Utilize SAP Integration of Global Trade Management. Supervise 4 Software Developers and a Data Modeler and train new users. Send CV to: E-Core IT Solutions, LLC, ATTN: Matheo Pegoraro, 50 Main Street, Suite 1000, White Plains, NY 10606. E-Core is an EOE.

Interested candidates send resume to: Google Inc., PO Box 26184 San Francisco, CA 94126 attn: Keeshia Moultrie. Please reference job # below:
Software Engineer Positions (San Francisco, CA) Design, develop, modify, and/or test software needed for various Google projects. Exp incl:
#1615.3841 large syst sw design & dvlpmnt; UNIX &/or Linux; data struct & algorithms; design & dvlopmnt of srvr-side code for web-based applications; prototype dvlpmnt; dvlpmnt of high-vol prod applications; syst integration; Java application dvlpmnt; & multi-thread program.
#1615.4263 data stream &/or web srvcs; Java; & R&D proj involve low-level hw optimization & assembly language.

Senior Business Analyst (Boston, MA) Lead functional business/technical development of retirement benefits IT project. Req Master or equiv combination of degrees in Comp Appl, Csci or MIS & 3-yr post-grad exp with Business Analyst or SW Development occupations related to the job, including 2-yr exp with public employee pension mgmt projects. Exp should include J2EE, RSA, IBM Websphere Server, SQL Queries, SQL Server. Send salary reqt & resume to: HR, Sagitec Solutions, 422 County Rd D East, Little Canada, MN 55117.

Sr.Resourcing & Compensation Manager: Aid in key strategic decisions & participate in critical compensation policy & structural decisions with management. Ensuring maximum revenue generation through optimum utilization of resources. Act as management & employee interface through approaches like counselling & grievance handling. Well experienced in working on onsite-offshore model with extensive knowledge of HR tools based on ERP platform particularly Oracle Apps HRMS Modules & e-Learning tools. IT industry experience will be preferred. Apply w/2 copies of resume to HR, Auritas, LLC. 4907 International Parkway, Ste#1051, Sanford, FL 32771

Managers, Computers, Chantilly, VA & other client locations: Manage, develop, direct & coordinate projects & progress of work, resolve problems & ensure standards for quality of work are met. Exp in Methodologies, SDLC, MS Project, Visio, Clarity, Agile, RUP, UML, Rational Rose, Oracle Middleware Products, SOA Architecture, Weblogic, Websphere, ESB, LDAP, Unix, Linux & Windows. Execute cross-functional super scenarios & manage disaster recovery process. BS or Equivalent (3yrs of college + 3 years of exp as equivalent to BS) in CS, CIS, MIS, Eng (any), Math, Physics, or related with three years of experience. Salary DOE. Email: hr@aarisha.com or mail Aarisha, Inc, 14526 Lee Road, # 100, Chantilly, VA, 20151.

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HAL MAYFORTH

Which Part of Enter...? Oh, All of It

It's the late 1980s, and this IT pilot fish is developing and supporting PC-based security alarm systems for big sites like prisons and power stations. He's testing the latest installation remotely, via modem, while talking on the phone to an engineer at the site. "The system is advanced for its day," says fish, "but still pretty basic stuff. It's all fine from my end. When I input the three-digit number that controls a gate and press Enter, I can hear the gate roll open and shut over the phone. But this is all new to the engineer at the other end. When he tries the same thing, nothing happens. After instructing him key by key about three times – 'Put in the number and then Enter' – all becomes clear when I hear him saying 'E-N-T-E-R' under his breath as he types."

Problem Deferred

Hospital IT pilot fish gets a call from the nursing department: A user's keyboard has a bad key, and it needs to be replaced. "I grab a spare keyboard and go to that department to change it out," says fish. "Checking the existing keyboard, I verify that the key in question doesn't work. I shut the system down so I can switch out the keyboard, unplug the old keyboard and try to plug in the new one." But the connector won't go all the way in. Fish plugs the old keyboard back in. No problem. He tries swapping in the new one again. No luck. He inspects the new keyboard. It's fine. Baffled, fish disconnects and inspects everything, and finally spots the problem: The plastic locating tab from the old keyboard's connector has broken off in the computer's keyboard port. "What can I do?" fish says. "I break off that locating tab from the new keyboard's connector. Now the keyboard can be plugged in without any trouble. Problem solved?"

Now, *That's* Handy

This pilot fish is working in a nontechnical job for a big government contractor, responding to requests for government reports. "The next step up the corporate ladder was the help desk," fish says. "When a job opened up, I applied, despite being a political science major. My interviewer was clearly underwhelmed by my lack of experience, no matter how much I tried to talk myself up. Out of desperation, I mentioned that I was good at juggling multiple tasks because I had been a waiter in college – which I hadn't listed on my résumé. I didn't get the job. But some time later, the interviewer told me that the experience I *should* have stressed was my internship at a suicide hotline."

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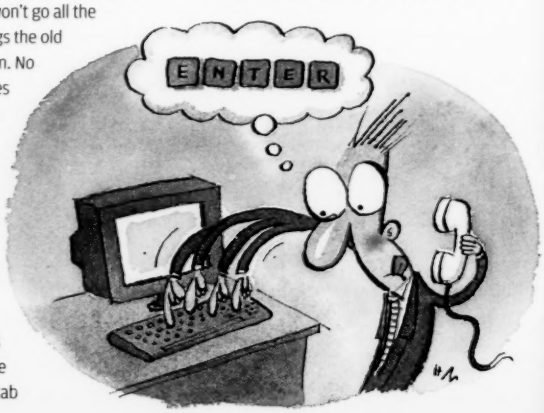

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OPINION

PAUL GLEN

Geeks Love Problems, So Give Them Some

We geeks not only devote our careers to solving problems; we are dependent on problems.

NO MATTER WHERE I GO, IT managers ask me, "How can I motivate my technical team?" I love that they ask that question, since it tells me that as an industry, our managerial maturity is improving. Fifteen years ago, I was more often asked about process.

The short answer is that you *can't* motivate your team. Motivation is an internal emotional state, and you can't crawl into someone else's soul and make them motivated any more than you can make someone love you.

Fortunately, I have a longer answer: You can create conditions under which people are likely to find their own motivation. You can offer people an opportunity to be motivated. With geeks, the best way to offer that opportunity is to master the motivational power of problem statements.

We geeks love problems, and problems at work, presented clearly and with specifics, tell us how we can win at work. Not only do we devote our careers to solving problems; we are dependent on problems. Without a good problem statement, we don't really know what to do. Just think back to the last conversation you had with a nontechnical stakeholder asking for something that didn't make any sense to you. You probably blurted out something like "What problem are you trying to solve?" or "What goal are you trying to achieve?"

The most elegant thing you can do to motivate geeks is to define a problem that your team will want to solve. You do this not with annoyingly vague and emotional mission statements, but with clearly articulated and achievable goals. For example, you could start by saying, "We need to reduce the costs of software testing while improving its effectiveness."

But to make that statement motivational, you need to take one more step that turns it into something geeks will find intriguing or exciting. You can do this easily enough by focusing on one or more of these four qualities or actions:

Value: We geeks love to know that our work provides measurable value to an organization. That knowledge justifies our faith in technology's ability to drive progress. With that in mind, you might say, "We need to reduce the costs of software testing while improving its effectiveness. Reducing the post-release call volume by 10% will lower our costs by 5%."

Difficulty: We love to tackle hard (but not impossible) problems. Simple things are boring, but juicy problems are a joy. Generally, constraints make problems difficult. Therefore, for example, "We need to reduce the costs of software testing while improving its effectiveness in time to test the June 1 release of the product."

Learning: We love to learn. Most geeks like the challenge of engaging with new ideas as long as they have the time and resources they need to master them. This could lead you to say, "We need to reduce the costs of software testing while improving its effectiveness by adopting the most up-to-date testing methodology and tools."

Competition: Yes, we love to compete with worthy opponents for pride and bragging rights. This instinct can be tapped by saying something like "We need to reduce the costs of software testing while improving its effectiveness to make our June 1 release the highest-quality software the company has ever introduced."

When you invite your team to engage in the joy of solving important problems, you create an environment in which their natural motivation can flourish. ◆

Paul Glen, CEO of Leading Geeks, is devoted to clarifying the murky world of human emotion for people who gravitate toward concrete thinking. His newest book is *8 Steps to Restoring Client Trust: A Professional's Guide to Managing Client Conflict*. You can contact him at info@leadinggeeks.com.

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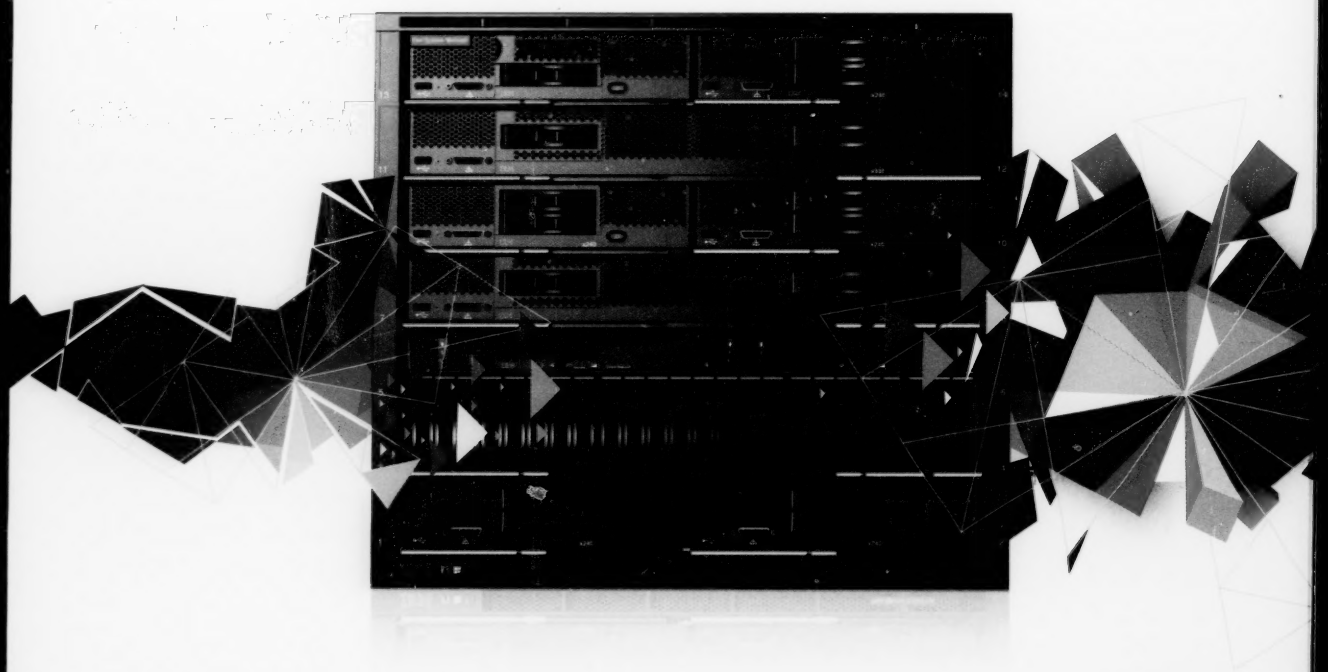

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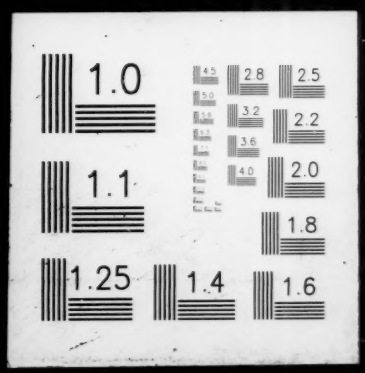
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